

June 2010

This distribution contains change pages for patch MD*1.0*21 of the Clinical Procedures 1.0 Implementation Guide.

The change pages for CP Patch 21, should be inserted after the change pages for CP Patch 11:

<u>File Name:</u>	<u>Patch:</u>
MD_1_P4_IMPG.PDF	MD*1.0*21

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CLINICAL PROCEDURES IMPLEMENTATION GUIDE

Version 1.0

April 2004

Revised June 2010

Department of Veterans Affairs
Office of Information & Technology
Office of Enterprise Development

Revision History

Description	Date	Technical Writer
Originally released.	April 2004	
¹ Patch MD*1.0*4 released.	September 2006	REDACTED
² Patch MD*1.0*9 released November 2007. Update Setting up HL7 Parameter for port 5000 with CACHE.	February 2008	REDACTED
³ Patch MD*1.0*14 released. Updated Setting Up Consults for Clinical Procedures, Exported XPAR Kernel Parameters, add new section called Scheduled Options. Added information about launching CP Gateway under the section Working with CP Gateway.	March 2008	REDACTED
⁴ Patch MD*1.0*6 released. Updated MD namespace Clinical Procedures file list and CP Class Upload Header output display, added TIU prompts for adding new TIU Note Titles, added instrument warning for automated instruments, added Processing Application field, changed wording for Count/Non-count clinics, added new Exported Kernel XPAR parameters and screen capture, revised “Setting Up HL7 Parameters chapter for clarity, updated list of Instrument Processing Routines, added Appendix D – Exported Values For Hemodialysis Options.	May 2008	REDACTED
⁵ Patch MD*1.0*11 released. Updated Setting Up Procedures, Exported Kernel XPAR Parameters, and Scheduled Options.	June 2009	REDACTED
⁶ Patch MD*1.0*21 released. Updated Chapter 1 - General CP Package Information and added assigning options. Updated Step 2 of Setting up TIU for Clinical Procedures in Chapter 4, updated Kernel XPAR Parameter in Chapter 6, Added Chapter 7, Application Proxy, and Appendix E, High Volume Procedure Checklist. Added Step 3 – Create Ad Hoc Health Summary Components For CP to Chapter 10. Updated Ch 21 Index.	June 2010	REDACTED

¹ Patch MD*1.0*4 September 2006 Patch 4 release added.

² Patch MD*1.0*9 November 2007 Patch 9 release added.

³ Patch MD*1.0*14 March 2008 Patch 14 release added.

⁴ Patch MD*1.0*6 May 2008 Patch 6 release added.

⁵ Patch MD*1.0*11 June 2009 Patch 11 release added.

⁶Patch MD*1.0*21 June 2010 Patch 21 release added.

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Table of Contents

1. Introduction

This implementation manual describes how to implement the Clinical Procedures (CP) application. It also contains setup instructions for Consults/Request Tracking, Text Integration Utility (TIU), Computerized Patient Record System (CPRS) and commercial off the shelf (COTS) interfaced devices. All setup instructions and their steps are required for a successful implementation of the Clinical Procedures package.

Topics discussed in this chapter are:

- [About Clinical Procedures](#)
- [Related Manuals](#)
- [General CP Package Information](#)
- [Resource Requirements](#)
- [Hospital Location File Requirement](#)

About Clinical Procedures

A clinical procedure is a clinical test where the result is usually obtained from an automated instrument such as pulmonary function devices, EKGs, ECHOs, EMGs, EEGs, endoscopy and bronchoscopy instruments, dialysis machines, or other similar COTS devices. CP is a conduit for passing final patient results, using Health Level 7 (HL7) messaging, between vendor clinical information systems (CIS) and Veterans Health Information Systems and Technology Architecture (VistA). The patient's test result or report is displayed through the Computerized Patient Record System (CPRS). The report data is stored on the Imaging Redundant Array of Inexpensive Disks (RAID) and in some instances, discrete data is stored in the Medicine database.

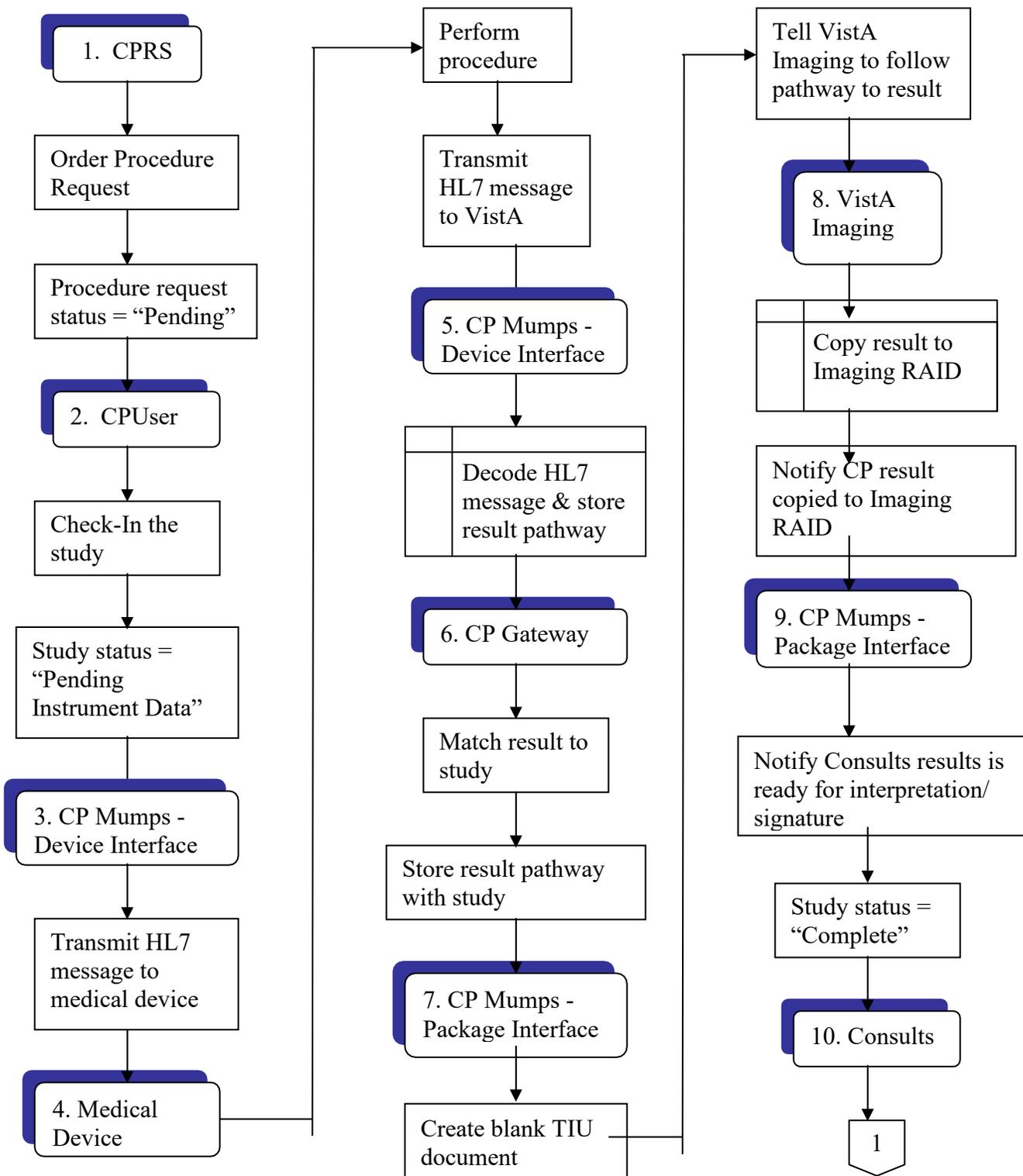
CP provides features that can be used across clinical departments such as general medicine, cardiology, pulmonary, women's health, neurology, and rehabilitation medicine. CP uses the procedure order function that is included with the Consults/Procedures package. For example, a clinician places an order for a procedure, such as an EKG, in the Consults/Procedures application.

If the procedure is performed on a bi-directional instrument, the patient demographics are automatically transmitted to the instrument. When the procedure is complete, the result is then transmitted back to VistA. The result is stored in VistA Imaging and associated with a TIU document. The result and the TIU document are then associated with the original Consults order.

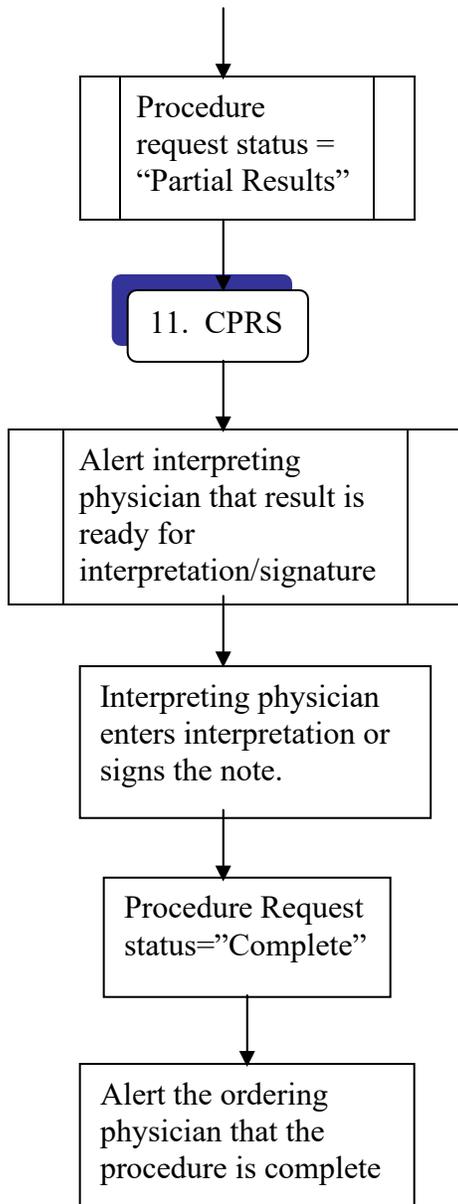
If the procedure is performed on a uni-directional instrument, then the clinician must use the CP User application to match the instrument results to the procedure order. Then the clinician submits the results to Imaging and creates the TIU document. Once the TIU document is in place, standard Consults functionality is used to complete and sign the TIU document.

The following pages contain flowcharts explaining the bi-directional and uni-directional Clinical Procedures process flow.

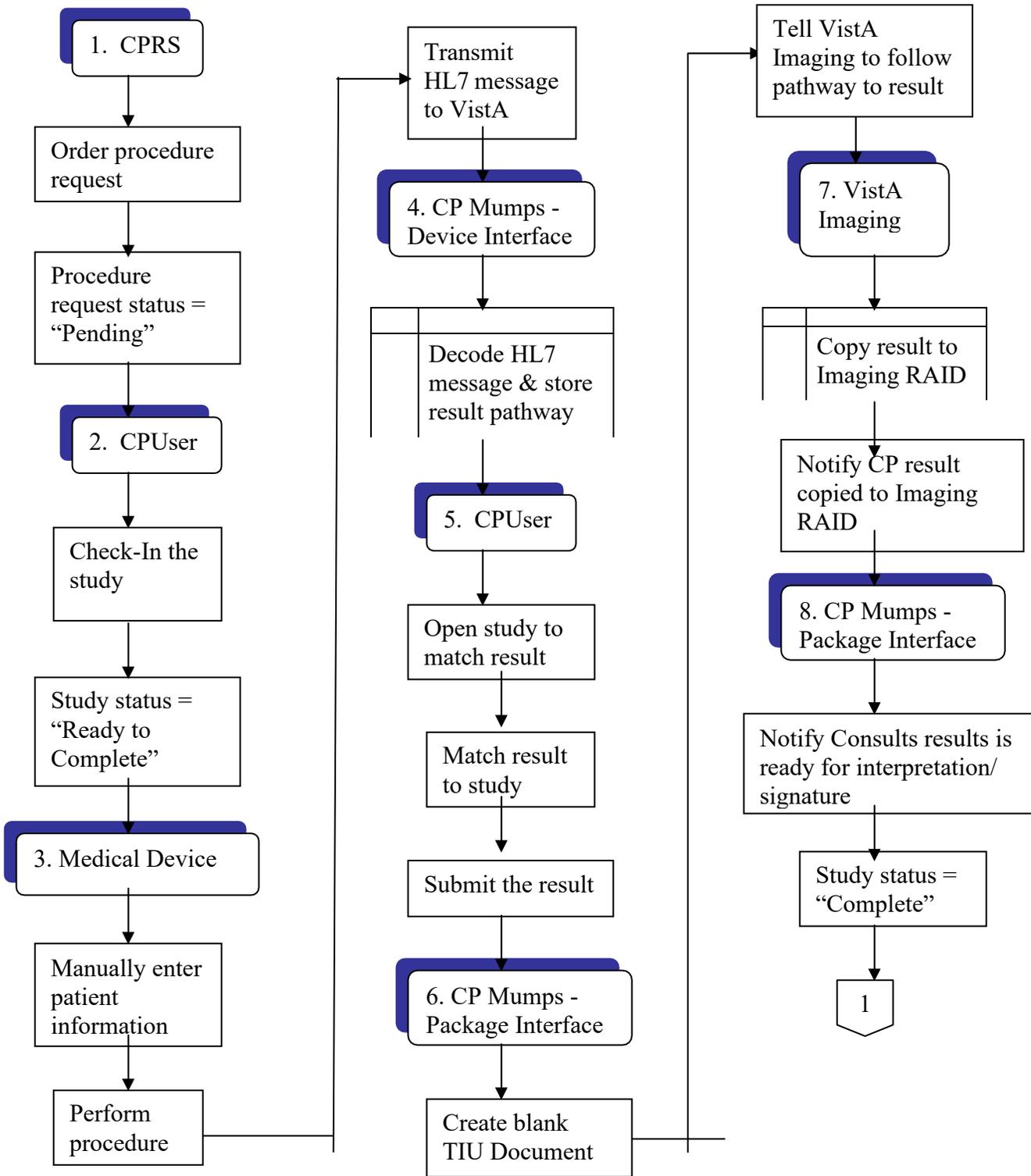
Clinical Procedures Bi-Directional Interface Process Flow:

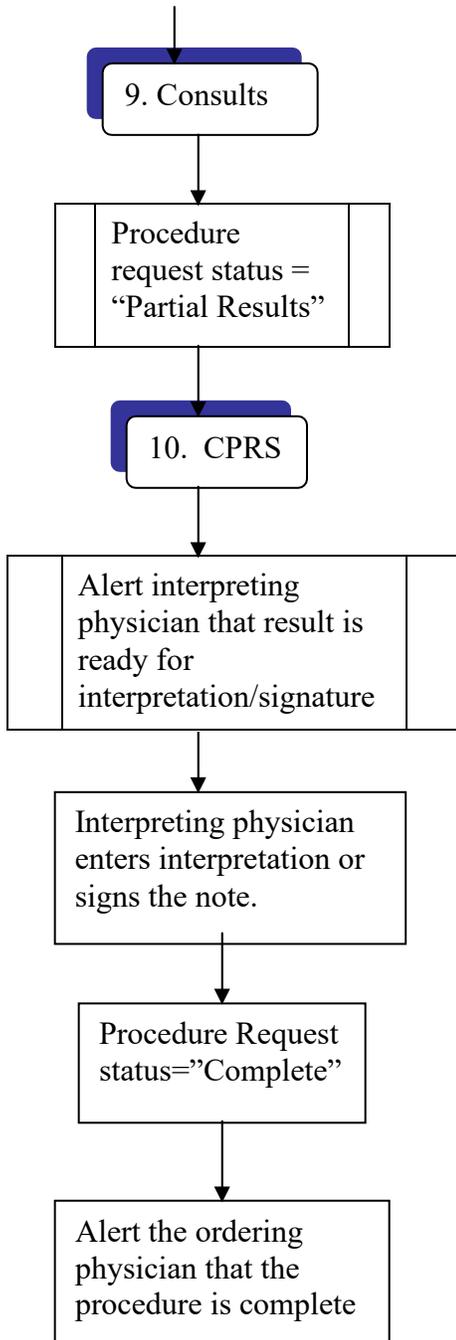


Introduction

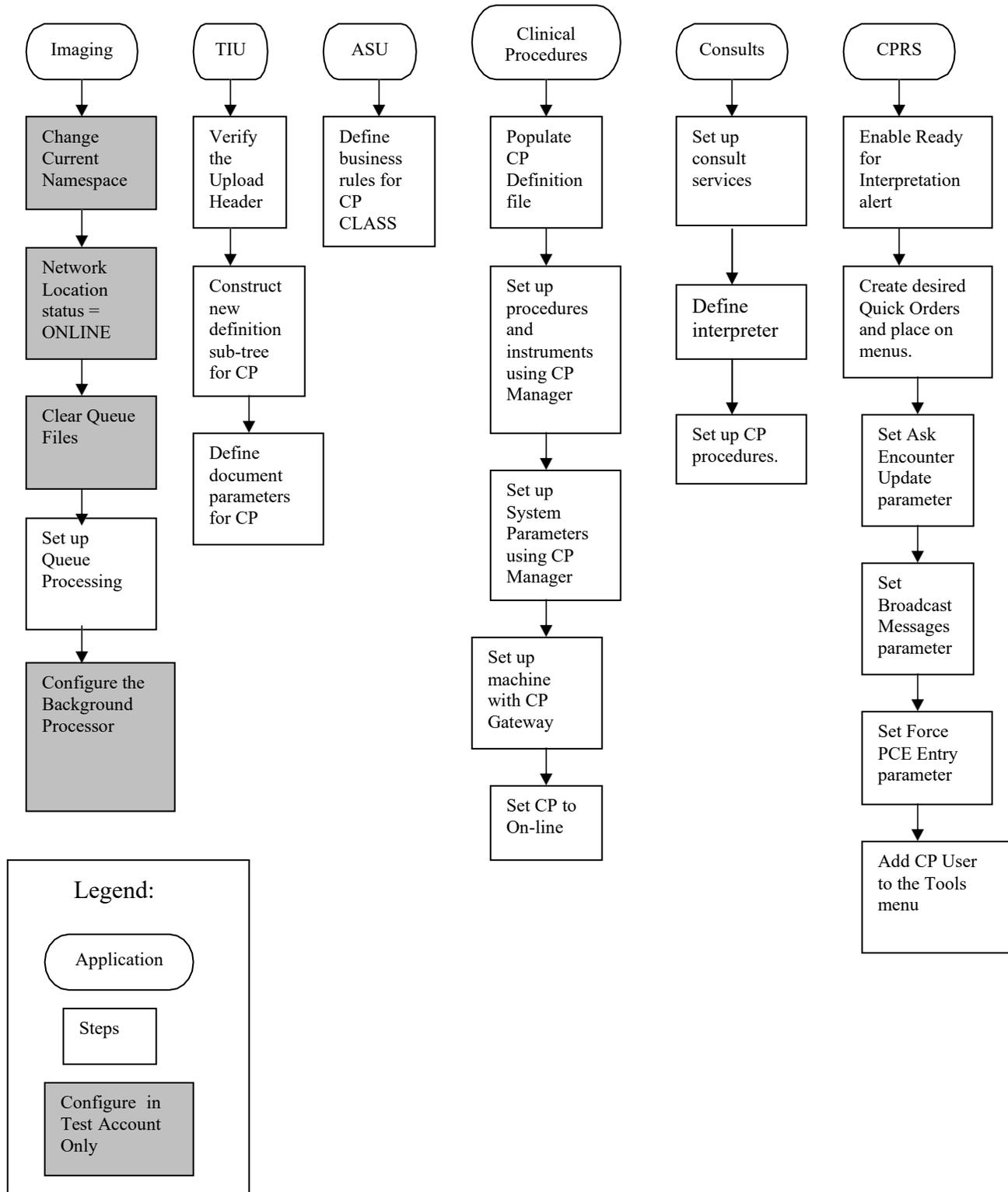


Clinical Procedures Uni-Directional Interface Process Flow:





This is a flowchart describing the configuration of Clinical Procedures:



About CP User

CP User checks in a procedure request for a study. CP User also links the result from the automated instrument to the procedure ordered through Consults in CPRS. With CP User, if the device is bi-directional, the clinician manages the results and submits them to the requested device. The results then are automatically processed by CP Gateway, stored in VistA Imaging, and are ready for review within Consults. If the instrument is uni-directional, the clinician has to associate the results and submit them to the VistA Imaging system for storage. These attachments display under the appropriate TIU document for the original Consults order.

About CP Manager

CP Manager is used to configure the site files, CP INSTRUMENTS, CP PROCEDURES and required system parameters. It is recommended that access to CP Manager be restricted to users who manage the CP applications.

About CP Gateway

CP Gateway manages the flow of information from the instrument interfaces to the studies. CP Gateway polls VistA regularly for new data from instruments and processes this data into usable attachments for the VistA Imaging system. This module also manages the log files and purges log file entries.

Intended Audience

The Implementation Guide is intended for use by Clinical Application Coordinators (CAC), Technical Support Office (TSO), Information Resource Management (IRM), implementation managers, and Enterprise VistA Support (EVS). Each team member is responsible for different aspects of the implementation, and then the maintenance of the product.

Related Manuals

Here is a list of related manuals that you may find helpful:

- Clinical Procedures Installation Guide
- Clinical Procedures Technical Manual and Package Security Guide
- Clinical Procedures User Manual
- Clinical Procedures Release Notes
- CPRS User Guide: GUI Version
- CPRS Setup Guide
- Consult/Request Tracking User Manual
- Consult/Request Tracking Technical Manual
- Text Integration Utilities (TIU) Implementation Guide
- Text Integration Utilities (TIU) User Manual
- VistA Imaging System (Clinical) User Manual

These manuals can be found in the [VistA Documentation Library \(VDL\)](http://www.va.gov/vdl), <http://www.va.gov/vdl>. Select **Clinical** from the VDL web page, select the package you want, and then select the manuals. For example, you can select CPRS on the left side of the page. The list of CPRS manuals is displayed.

¹ You may also want to read the CP Implementation Process (Webpage), which is available on the CP website. Go to <http://vista.med.va.gov/ClinicalSpecialties/clinproc/>. Point to **Clinical Procedures Project**, then click **Documentation**. When the Documentation page displays, click **Clinical Procedures Documents**, then click **The CP Implementation Process (Webpage)**. This list includes a high-level step-by-step guide to the installation and the implementation process.

¹ MD*1.0*6 May 2008 Changed document name from “Site Installation Checklist” to “The CP Implementation Process (Webpage).” Revised directions to access the document.

General CP Package Information

1. Name spacing and file listing.

Clinical Procedures is found in the MD namespace. All routines, templates and options begin with MD. File numbers range from 702 to 704 and are stored in the ^MDD and ^MDS globals. The range of 704.201 to 704.209 is stored in the ^MDK global. Here is a list of the Clinical Procedures files:

#702	CP Transaction
#702.01	CP Definition
#702.09	CP Instrument
#703.1	CP Result Report
¹ #703.9	CP Conversion File
#704.201	Hemodialysis Access Points File
#704.202	Hemodialysis Study File
#704.209	Hemodialysis Setting File

2. Queuing TaskMan jobs.

Queued TaskMan jobs are not associated with this application.

3. Accessing modules.

- Assign the option [MD GUI USER] to the clinical staff, who need access to CP User.
- Assign the option [MD GUI MANAGER] to the Clinical Application Coordinator, CP package coordinator, and Information Resource Management Service (IRMS) staff for access to CP Manager.
- Assign the MD MANAGER key to the Clinical Application Coordinator or the CP Package Coordinator. This key controls access to the Update Study Status menu option that allows clinicians to fix study errors. This key also controls access to the Delete Study option.
- Assign the MAGCAP CP user security key to technicians, who will be using VistA Imaging to capture a consent form and link it to a CP study or TIU document.

¹ Patch MD*1.0*6 May 2008 Files added.

4. ¹Assigning Options:

- Assign the option [MD AUTO CHECK-IN SETUP] to the Clinical Application Coordinator, CP package coordinator, and Information Resource Management Service (IRMS) staff for access to the setup option for the auto study check-in.
- Assign the option [MD HIGH VOLUME PROCEDURE SETUP] to the Clinical Application Coordinator, CP package coordinator, and Information Resource Management Service (IRMS) staff for access to the setup option for the high volume procedure.
- Assign the option [MD PROC W/INCOMPLETE WORKLOAD] to the Clinical Application Coordinator, CP package coordinator, and Information Resource Management Service (IRMS) staff to print a list of procedures with incomplete workload.
- Assign the option [MD STUDIES LIST] to the Clinical Application Coordinator, CP package coordinator, and Information Resource Management Service (IRMS) staff to print a list of studies list.

The screen captures below demonstrate how to assign an option to a user:

- ▶ Use the [XUSER] User Management menu option.

```
Select OPTION NAME: XUSER
 1  XUSER      User Management
 2  XUSER DIV CHG      Change my Division
 3  XUSER FILE MGR     Manage User File
 4  XUSER KEY RE-INDEX Reindex the users key's
 5  XUSER PC BUILD    User PC build Print
Press <RETURN> to see more, '^' to exit this list, OR
CHOOSE 1-5: 1  XUSER      User Management
```

- ▶ Select [XUSEREDIT] Edit An Existing User option.

```
Select User Management Option: ?

Add a New User to the System
Grant Access by Profile
Edit an Existing User
Deactivate a User
Reactivate a User
List users
User Inquiry
Switch Identities
File Access Security ...
Clear Electronic signature code
Electronic Signature Block Edit
Manage User File ...
OAA Trainee Registration Menu ...
Person Class Edit
Reprint Access agreement letter
Select User Management Option: EDiT an Existing User
```

¹ Patch MD*1.0*21 June 2010 – Updated General CP Package Information to add Assigning Options for options released with patch 21 and previous patches.

Introduction

► Select the user.

```
Select User Management Option: Edit an Existing User
Select NEW PERSON NAME: TEST
  1  TEST,A          TA
  2  TEST,CARL      TC          PHYSICIAN
  3  TEST,CAROLE    CJT        ISC          COMPUTER SPECIALIST
  4  TEST,FRANCE    FT
  5  TEST,KEN              RADIOLOGIST
Press <RETURN> to see more, '^' to exit this list, OR
CHOOSE 1-5: 1  TEST,A      TA
```

► Enter the option name, MD HIGH VOLUME PROCEDURE SETUP, to the Select SECONDARY MENU OPTIONS: field.

```
                                Edit an Existing User                                Page 1 of 5
NAME: TEST,A
-----
NAME... TEST,A                      INITIAL: TA
TITLE:                               NICK NAME:
SSN: 666435465                      DOB:
DEGREE:                              MAIL CODE:
DISUSER:                             TERMINATION DATE:
Termination Reason:

PRIMARY MENU OPTION:
Select SECONDARY MENU OPTIONS: MD HIGH VOLUME PROCEDURE SETUP
Want to edit ACCESS CODE (Y/N):      FILE MANAGER ACCESS CODE:
Want to edit VERIFY CODE (Y/N):

Select DIVISION:
SERVICE/SECTION: IRM FIELD OFFICE
-----
High Volume Procedure Setup
Are you adding 'MD HIGH VOLUME PROCEDURE SETUP' as
a new SECONDARY MENU OPTIONS (the 1ST for this NEW PERSON)? No// Y
```

► Verify the SECONDARY MENU OPTIONS field has the option name MD HIGH VOLUME PROCEDURE SETUP and enter a four characters SYNONYM for the option name.

```
                                Edit an Existing User                                Page 1 of 5
NAME: TEST,A
-----
NAME... TEST,A                      INITIAL: TA
TITLE:                               NICK NAME:
SSN: 666435465                      DOB:
DEGREE:                              MAIL CODE:
DISUSER:                             TERMINATION DATE:
Termination Reason:

Select                               SECONDARY MENU OPTIONS
Want to                               SECONDARY MENU OPTIONS: MD HIGH VOLUME PROCEDURE SETUP
Want to                               SYNONYM: HIGH
-----
COMMAND:
```

► Enter additional SECONDARY MENU OPTIONS.

```

                                Edit an Existing User
NAME: TEST,A                                     Page 1 of 5
-----
NAME... TEST,A                                INITIAL: TA
TITLE:                                         NICK NAME:
SSN: 666435465                                DOB:
DEGREE:                                       MAIL CODE:
DISUSER:                                     TERMINATION DATE:
Termination Reason:

        PRIMARY MENU OPTION:
Select SECONDARY MENU OPTIONS:
Want to edit ACCESS CODE (Y/N):      FILE MANAGER ACCESS CODE:
Want to edit VERIFY CODE (Y/N):

        Select DIVISION:
        SERVICE/SECTION: IRM FIELD OFFICE
-----
COMMAND:                                         Press <PF1>H for help   Insert

```

- When you are finished, enter “SAVE” at the COMMAND field to save the data and enter “EXIT” to exit the editor.

```

-----
COMMAND: SAVE                                     Press <PF1>H for help   Insert
-----
COMMAND: EXIT                                     Press <PF1>H for help   Insert

```

- Once the option(s) are added, the person can enter “??” at the primary menu option to get a listing of the secondary menu option and can see the new added option(s).

Select Core Applications Option: ??

You can also select a secondary option:

```

AUTO Auto Study Check-In Setup [MD AUTO CHECK-IN SETUP]
GI GI Menu ... [MCARGIUSER]
HEVD CM Troubleshooter Clinician ... [ORRCMM TROUBLESHOOTER CLIN]
HVOL High Volume Procedure Setup [MD HIGH VOLUME PROCEDURE SETUP]
LIST Clinical Procedures Studies List [MD STUDIES LIST]
MAGS Imaging System Manager Menu ... [MAG SYS MENU]
**> Locked with MAG SYSTEM
PFT Pulmonary Menu ... [MCARPULMUSER]
RA Rad/Nuc Med Total System Menu ... [RA OVERALL]
TIU TIU Maintenance Menu ... [TIU IRM MAINTENANCE MENU]
WKLD Print list of Procedure with incomplete workload [MD PROC W/INCOMPLETE
WORKLOAD]

```

5. Printer issues.

All reports are printed to Client (Windows) printers.

6. Online Help.

Online help is available when questions arise. Click Help or choose Help from the menu bar. You can also press F1 for help on a specific window.

7. Automatic Version Updates.

CP applications (client and server) do not contain automatic update capabilities. You must remove the previous version before you can install the new version.

8. Command line switches.

For alternate methods of running Clinical Procedures, refer to [Appendix A - CP Application Startup Options and Command Line Switches](#), p. 10-6.

Resource Requirements

- Clinical Procedures can only run at sites that are running VistA Imaging V. 3.0.
- Workstations must run Windows 2000 or later. 12 MB of available disc space is required.

VistA Server resources:

<u>Globals</u>	<u>Type of Data</u>	<u>Size</u>
^MDS	Static global	25 k
^MDD	Patient data for the Clinical Procedures	25-75 k/patient
^MDK	Hemodialysis Studies	25-75 k/patient

NOTE: These globals must all be journaled.

Hospital Location File Requirement (Implementing Workload Reporting)

Be sure that the hospital location entry (Hospital Location #44 file) for each CP procedure contains the correct Institution field entry. The Hospital Location is used for workload reporting. (The Institution field tells VistA Imaging where to store the images on the server. If there is no Institution field, CP defaults to the institution of the user who logged on to CP Gateway.)

VistA Imaging

Providers at a site must use the VistA Imaging Display client to view CP results and reports. Be sure that VistA Imaging V.3.0 or greater and Patch 7 of Imaging V.3.0 (MAG*3.0*7) are installed.

Example of going to the next level:

Create Document Definitions May 07, 2003@09:03:57 Page: 1 of 1

	Name	Type
	BASICS	
1	CLINICAL DOCUMENTS	CL
2	DISCHARGE SUMMARY	CL
3	PROGRESS NOTES	CL
4	ADDENDUM	DC
5	CLINICAL PROCEDURES	CL

?Help >Scroll Right PS/PL Print Scrn/List +/- >>>

(Title) Restart Status...
 (Component) Boilerplate Text Delete

Select Action: Next Level// <RET> Next Level

Select CLINICAL DOCUMENTS Item (Line 2-5): **5**..... (Clinical Procedures level)

Create Document Definitions May 07, 2003@09:03:57 Page: 1 of 1

	Name	Type
	BASICS	
1	CLINICAL DOCUMENTS	CL
2	DISCHARGE SUMMARY	CL
3	PROGRESS NOTES	CL
4	ADDENDUM	DC
5	CLINICAL PROCEDURES	CL
6	CP CARDIOLOGY	DC
7	CP GI TESTS	DC
8	CP HEMATOLOGY	DC
9	CP RHEUMATOLOGY	DC

?Help >Scroll Right PS/PL Print Scrn/List +/- >>>

(Title) Restart Status...
 (Component) Boilerplate Text Delete

Example of creating a Document Class:

Select ACTION: **CLASS** Class/DocumentClass
Enter the Name of a new CLINICAL PROCEDURES: **CP NEUROLOGY**
TYPE: (CL/DC): **DC** DOCUMENT CLASS
CLASS OWNER: CLINICAL COORDINATOR Replace **<RET>**
STATUS: (A/I): INACTIVE// **A** ACTIVE
SEQUENCE: **<RET>**
MNEMONIC: **<RET>**
MENU TEXT: CP Neurology// **<RET>**

Entry Created

Create Document Definitions May 07, 2003@09:03:57 Page: 1 of 1

BASICS

	Name	Type
1	CLINICAL DOCUMENTS	CL
2	DISCHARGE SUMMARY	CL
3	PROGRESS NOTES	CL
4	ADDENDUM	DC
5	CLINICAL PROCEDURES	CL
6	CP CARDIOLOGY	DC
7	CP GI TESTS	DC
8	CP HEMATOLOGY	DC
9	CP RHEUMATOLOGY	DC
10	CP NEUROLOGY	DC

?Help >Scroll Right PS/PL Print Scrn/List +/- >>>

(Title)	Restart	Status...
(Component)	Boilerplate Text	Delete

Example of creating a Title:

You must go to the appropriate level before a Title can be added.

Select Action: Next Level// <RET> Next Level
 Select CLINICAL DOCUMENTS Item (Line 6-10): 10..... (CP NEUROLOGY level)

Create Document Definitions May 07, 2003@09:03:57 Page: 1 of 1

BASICS		
+	Name	Type
2	CLINICAL PROCEDURES	CL
3	CP NEUROLOGY	DC

?Help >Scroll Right PS/PL Print Scrn/List +/- >>>

(Class/DocumentClass)	Next Level	Detailed Display/Edit
Title	Restart	Status...
(Component)	Boilerplate Text	Delete

At this point a Title may be added.

Select Action: Title// **Title**
 Enter the Name of a new NEUROLOGY: **CP PSEUDOFOLLICULAR SCAN**
 CLASS OWNER: CLINICAL COORDINATOR Replace <RET>
¹EVERY Local Title must be mapped to a VHA Enterprise Standard Title.
 (See example in the following section: "Example of New TIU Prompts")
 STATUS: (A/I/T): INACTIVE// **A** ACTIVE
 SEQUENCE: <RET>
 MENU TEXT: CP Pseudofollicular Scan Replace <RET>

Entry Created

If you wish, you may enter another CP NEUROLOGY

Create Document Definitions May 07, 2003@09:03:57 Page: 1 of 1

BASICS		
+	Name	Type
2	CLINICAL PROCEDURES	CL
3	CP NEUROLOGY	DC
4	CP PSEUDOFOLLICULAR SCAN	TL

?Help >Scroll Right PS/PL Print Scrn/List +/- >>>

(Title)	Restart	Status...
(Component)	Boilerplate Text	Delete

¹Patch MD*1.0*14 March 2008 New prompts added.

Select Action: Next Level//

¹Example of New TIU Prompts

Several new TIU prompts display as *each word* of the new TIU note title is run through a series of checks against the national list.

In the following example, the name of the new TIU note title is “CP HEMOTEST.”

EVERY Local Title must be mapped to a VHA Enterprise Standard Title.

Remember, your LOCAL title is: CP HEMOTEST
Attempting to map CP HEMOTEST
to a VHA Enterprise Standard Title...

Is "CP" a Subject Matter Domain? No.
Is "CP" a SYNONYM for a Subject Matter Domain? No.

Is "HEMOTEST" a Subject Matter Domain? No.
Is "HEMOTEST" a SYNONYM for a Subject Matter Domain? No.

Is "CP" a LOINC Role? No.
Is "CP" a SYNONYM for a LOINC Role? No.

Is "HEMOTEST" a LOINC Role? No.
Is "HEMOTEST" a SYNONYM for a LOINC Role? No.

Is "CP" a Setting? No.
Is "CP" a SYNONYM for a Setting? No.

Is "HEMOTEST" a Setting? No.
Is "HEMOTEST" a SYNONYM for a Setting? No.

Remember, your LOCAL title is: CP HEMOTEST
Is "CP" a Service? No.
Is "CP" a SYNONYM for a Service? No.

Is "HEMOTEST" a Service? No.
Is "HEMOTEST" a SYNONYM for a Service? No.

Is "CP" a Document Type? No.
Is "CP" a SYNONYM for a Document Type? No.

Is "HEMOTEST" a Document Type? No.
Is "HEMOTEST" a SYNONYM for a Document Type? No.

AUGH! Let's try a manual look-up...
Again, your LOCAL Title is: CP HEMOTEST

NOTE: Only ACTIVE Titles may be selected...

Select VHA ENTERPRISE STANDARD TITLE: DIALYSIS NOTE
I found a match of: DIALYSIS NOTE

¹ Patch MD*1.0*14 March 2008 Update with new TIU prompts example to reflect TIU field change.

```
... OK? Yes// YES
```

```
Ready to map LOCAL Title: CP HEMOTEST to  
VHA Enterprise Standard Title: DIALYSIS NOTE.
```

```
... OK? Yes// YES  
Done.
```

In the example above, “DIALYSIS NOTE” was selected as the VHA Enterprise Standard Title. You may use DIALYSIS NOTE as your title, but you are not required to do so. If another title from the VHA Enterprise Standard Title list is more appropriate for your site, you may select it from the list.

¹For the high volume procedure(s), there are two steps that you need to do: 1) you must create a title solely for high volume procedure and 2) you must edit the Technical fields of the note. Enter a Q (Quit) for Commit Action and Post-signature Code fields.

The title that you will create for the high volume procedure will be used strictly for the administrative closure purpose. Any subsequent note you need to write, use a separate title for it. The high volume procedure title can be used for one or more procedures. Use the Create CP Class Document Definitions section to assist you in creating a high volume procedure title(s).

The following steps are used to edit the Technical fields of the note:

Note: Users must have programmer access to edit the technical field.

1. Go into the **TIU Maintenance Menu**.
2. Select **Document Definitions (Manager)**.
3. Select **Edit Document Definitions**.
4. **Expand/Collapse** the CLINICAL PROCEDURES CLASS.
5. **Expand/Collapse** a selected DOCUMENT CLASS.
6. Select **Detailed Display/Edit** of the title.
7. Select **Entry**. (Select the entry of the title.)
8. Select **Basics** and change the status field to Inactive.
9. Select **Technical Fields** enter Quits for both the Commit Action and Post-Signature Code fields.
10. Select **Basics** and change the status back to Active.

The following is a screen capture of editing the Technical Fields for the High Volume Title:

```

                                     Title HIGH VOLUME TITLE
Basics                               Note: Values preceded by * have been inherited
      Name:                           HIGH VOLUME TITLE
VHA Enterprise
Standard Title:
Abbreviation:
      Print Name:                       HIGH VOLUME TITLE
      Type:                             TITLE
      IFN:                               764
    
```

¹ Patch MD*1.0*21 June 2010 - added note title field change for the high volume procedure.

```

National
Standard: NO
Status: INACTIVE
Owner: CLINICAL COORDINATOR
In Use: YES
Suppress Visit
Selection: * NO
+ ? Help +, - Next, Previous Screen PS/PL
Basics Technical Fields Find
Items: Seq Mnem MenuTxt Edit Upload Quit
Boilerplate Text Try
Select Action: Next Screen// techn Technical Fields
COMMIT ACTION: Q//
    
```

Step 3 - Define Clinical Procedures Class Document Parameters

You need to define a set of document parameters for the new CP Class.

1. Go into the **TIU Maintenance Menu**.
2. Select **TIU Parameters Menu > Document Parameter Edit**.

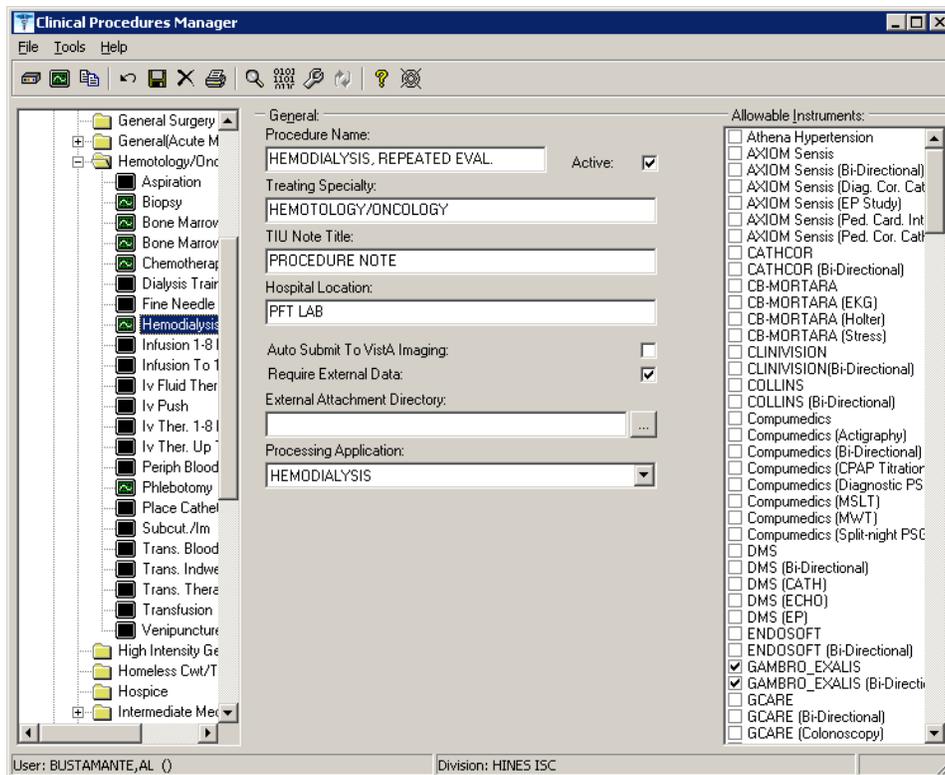
Note: (Entries in parentheses are recommended values.)

Parameters: Access the following menu: TIU IRM Maintenance Menu [TIU IRM MAINTENANCE MENU] TIU Parameters Menu [TIU SET-UP MENU] Document Parameter Edit [TIU DOCUMENT PARAMETER EDIT]	
Select DOCUMENT DEFINITION:	CLINICAL PROCEDURES CLASS
DOCUMENT DEFINITION:	CLINICAL PROCEDURES// <RET>
REQUIRE RELEASE:	(NO)
REQUIRE MAS VERIFICATION:	(NO)
*REQUIRE AUTHOR TO SIGN:	(YES)
ROUTINE PRINT EVENT(S):	
STAT PRINT EVENT(S):	
MANUAL PRINT AFTER ENTRY:	(NO)
ALLOW CHART PRINT OUTSIDE MAS:	(YES)
*ALLOW >1 RECORDS PER VISIT:	(YES)
ENABLE IRT INTERFACE:	
*SUPPRESS DX/CPT ON ENTRY:	(NO)
FORCE RESPONSE TO EXPOSURES:	
*ASK DX/CPT ON ALL OPT VISITS:	(YES)
SEND ALERTS ON ADDENDA:	
ORDER ID ENTRIES BY TITLE:	
SEND ALERTS ON NEW ID ENTRY:	
SEND COSIGNATURE ALERT:	
EDITOR SET-UP CODE:	
If document is to be uploaded, specify Filing Alert Recipients: Select FILING ERROR ALERT RECIPIENTS: <identify local recipients as appropriate>	
Now enter the USER CLASSES for which cosignature will be required: Select USERS REQUIRING COSIGNATURE: <identify local recipients as appropriate>	
Now enter the DIVISIONAL parameters: Select DIVISION:	
CHART COPY PRINTER:	
STAT CHART COPY PRINTER:	

Note: You must set parameters marked with an asterisk '*'. If a response is not entered for a particular parameter, the default value is 'No'.

5. If you selected a different treating specialty folder, a confirmation message is displayed. Click **OK** to confirm that the procedure is in the correct treating specialty folder.
6. Click **Print** if you want to print a Procedure report. See [Printing Reports, p. 2-4](#).

Note: A procedure can only be deleted through the main menu bar. Refer to the section [Deleting an Automated Instrument or Procedure, p. 2-3](#), for more information. If a procedure has been assigned through Consults, it cannot be deleted.



1Figure 6-7

Here is a list of fields for Procedures.

General: This section contains general information about the procedure.

Procedure Name: Enter a name used to uniquely identify the procedure (3-30 characters). It is recommended that you enter the name in uppercase, such as PACEMAKER FOLLOWUP.

After you complete the edits, if you entered the name in upper case, the procedure name that you just entered is displayed in title case, Pacemaker Follow-up, (the first letter of every word

¹ Patch MD*1.0*6 May 2008 Processing Application field added.

is capitalized), in the left side of the CP Manager window. See Figure 6-6.

Active: Select if you want the procedure to be mapped to Consults. Only active procedures can be selected and linked to the Consults package. Be sure to fill in the Treating Specialty, TIU Note Title, and Hospital Locations fields. Do not select if you do not want procedures to display. Must be selected to make this procedure active.

Treating Specialty: Enter at least two letters of a treating specialty, such as CA for CARDIOLOGY, and then click the down arrow to select an appropriate match from the list. This list comes from the Treating Specialty (#45.7) file. Must be filled in for an active procedure to work properly.

TIU Note Title: Enter at least two letters of a TIU Note Title, such as CP CARD for CP CARDIOLOGY NOTE or CARD for CARDIOLOGY, and then click the down arrow to select an appropriate match from the list, which comes from the 8925.1 file. This title must be in the CLINICAL PROCEDURES CLASS. Must be filled in for an active procedure to work properly.

¹**Hospital Location:** Enter at least two letters of a hospital location, such as CA for Cardiac Clinic, and then click the down arrow to select an appropriate match from the list, which comes from the #44 file. The Hospital Location file is the location where the workload credit for the procedure is tracked and is needed so CPRS can display the appropriate encounter form when prompted. Must be filled in for an active procedure to work properly.

You can enter a COUNT or NON-COUNT clinic for the hospital location.

- A COUNT clinic captures workload. Patients must be checked in and checked out and an encounter form must be completed in order to collect workload.
- A NON-COUNT clinic is used only for scheduling purposes and not for workload reporting.

There are three options available for setting up your clinics. The appropriate option for your site depends on how you currently do business and should be discussed with your project implementation manager.

- COUNT clinic for scheduling purposes / NON-COUNT clinic for CP User. Patient must be checked in/out and encounter form completed on the scheduled appointment. CP User appointment will not collect workload.
- NON-COUNT clinic for scheduling purposes / COUNT clinic for CP User. Appointment in scheduling package does not need to be checked in/out, nor does an

¹ Patch MD*1.0*4 September 2006 Wording for Count/Non-count clinic modified.

encounter form need to be completed for the appointment. The check in/out and encounter form must be completed for the appointment created through CP User.

- COUNT clinic for scheduling purposes that passes over to CP User. Patient must be checked in/out and encounter form must be completed. Note, however, that if you use Appointment Manager to check in the patient, you may have to wait up to thirty minutes before you can check-in the patient to CP. During the thirty-minute timeframe, the Patient Care Encounter (PCE) application establishes the visit date. (If you use the Scheduling application to capture workload, make sure that the clinic location is the same as the default location in the Hospital Location field.)

Auto Submit to VistA Imaging: Select if a procedure is processed by a bi-directional instrument and additional data does not need to be matched. The study is automatically submitted to VISTA Imaging. If this field is not selected, the study will be in the Ready to Complete status. Optional.

Require External Data: Select if you want this procedure to allow external attachments. For example, you might want to attach an independent report from a VA or non-VA health care facility. If you want to manually select external attachments, you must select this field.

Be sure the **Allow Non-Instrument Attachments** checkbox is selected in **CP Manager > System Parameters**. There is no default for this field.

External Attachment Directory: If you select Require External Data, enter the path where the data is located, or browse to locate a directory (3-150 characters). There is no default on this field. You can locate any directory on the LAN. This is the directory that CP User accesses to find attachments. This directory must be a network share directory that the VistA Imaging Background Processor can access.

¹Processing Application: Set the Processing Application field to HEMODIALYSIS for Hemodialysis procedures. Any other CP procedures will default to the Default setting, so you do NOT need to set the field.

Allowable Instruments: Select each automated instrument that provides results for this procedure. You can select more than one instrument for a procedure. If you only want to use external attachments, do not select any instruments.

You can select both **Allowable Instruments** and **Require External Data**. For example, you can have a pathology report from an endoscopy and you can attach the report to the procedure.

¹ Patch MD*1.0*6 May 2008 Processing Application field added.

¹**Processed Results:** This field is a flag which indicates whether a final result, multiple results, or cumulative result is associated with this procedure. This field is not accessible using the CP Manager application. It must be edited using File Manager.

²**Note:** If the site does not have a multiple result instrument, NO setup needs to be made. CP automatically defaults to using '0' for Final Result. If the site has a multiple result instrument, the site can select either '1' for Multiple Results which allows creation of a new TIU note for each result sent back or a '2' for Cumulative Result which allows the multiple result device to continuously send results back to the same TIU note. If the site needs to enter the PROCESSED RESULT field, the user will have to use File Manager to edit the field in the CP DEFINITION File (#702.01).

¹ Patch MD*1.0*11 June 2009 Processed Results field added.

² Patch MD*1.0*11 June 2009 Processed Results field added.

Adding a Procedure

Before you add a procedure, you can check to see if an appropriated titled procedure already exists that meets your needs. To view the names of procedures, select Procedures and then the appropriate treating specialty folder. A list of procedures is displayed. See Figure 6-8.

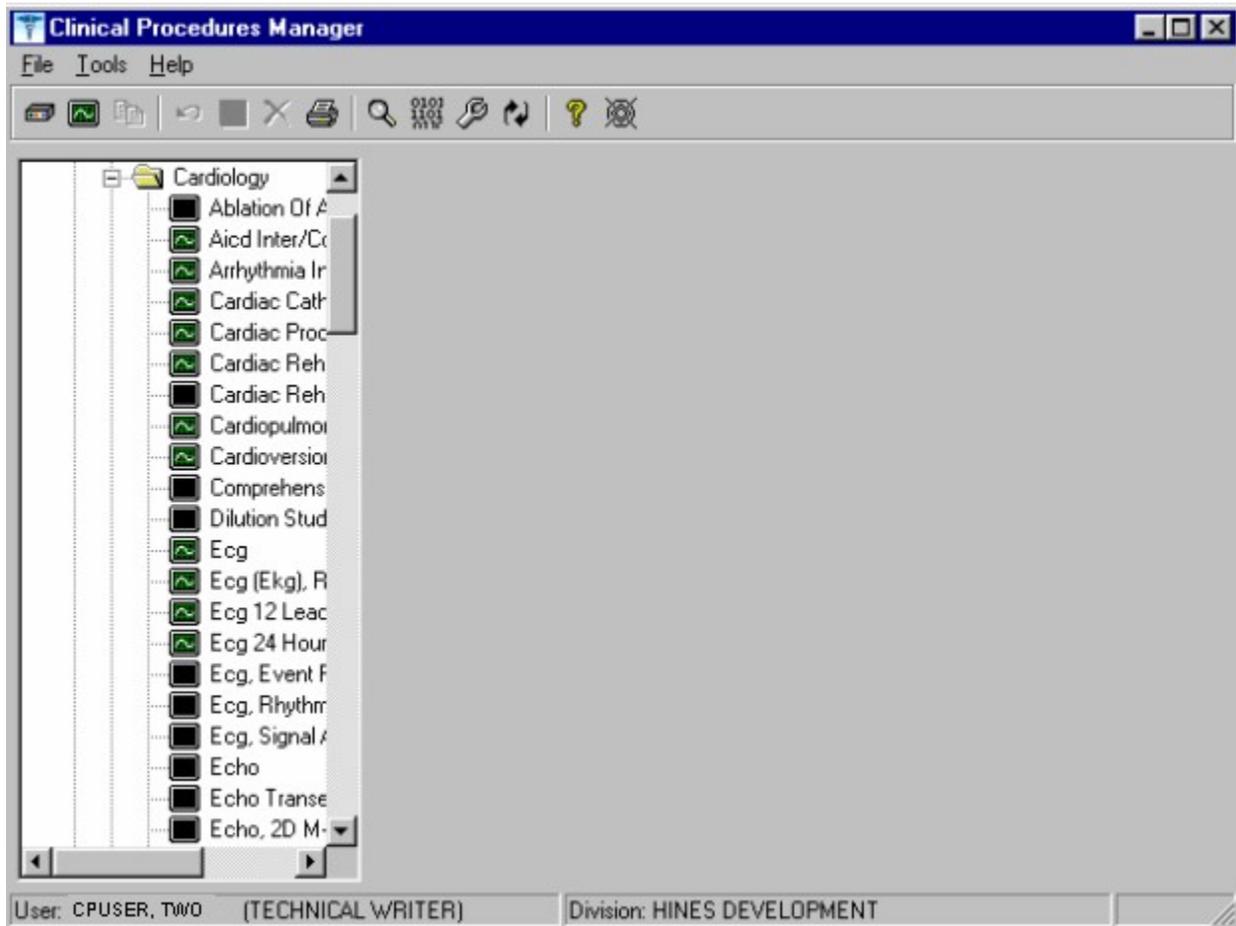
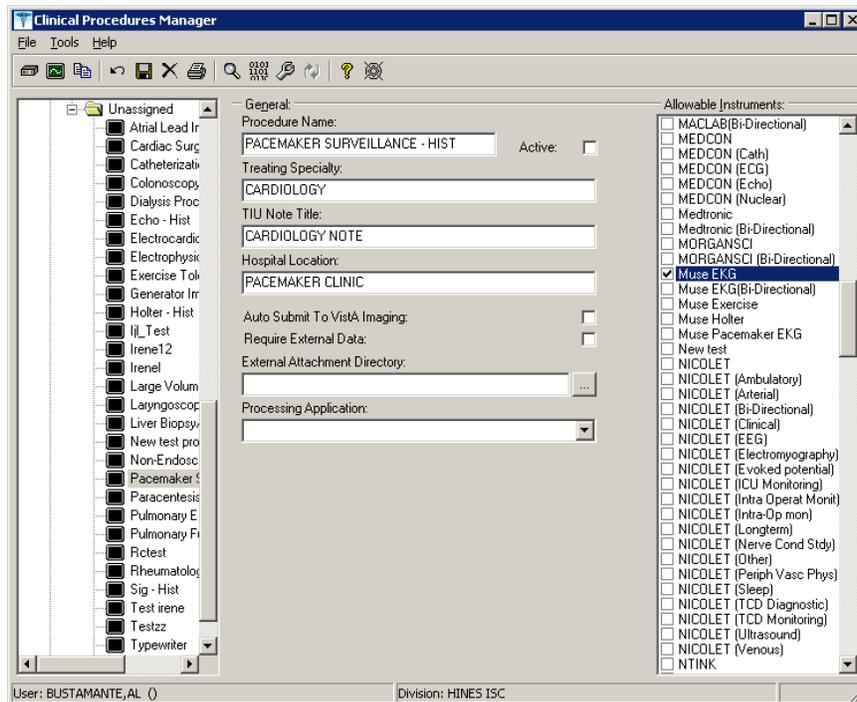


Figure 6-8

-  - Identifies an active procedure
-  - Identifies an inactive procedure

If you decide that you do need to add a procedure, follow these instructions:

1. Select **File > New > Procedure**.
2. Enter the name of the procedure that you want to add. It is recommended that you enter the name in uppercase with a minimum of 3 characters and a maximum of 30 characters.
3. Click **OK**. The Edit screen is displayed. Figure 6-9 is the edit screen for procedures. The Procedure Name that you just entered is displayed in the left side of the CP Manager window in the Unassigned folder.
4. Enter data for each field as applicable. Refer to [Editing a Procedure](#), p. 6-12, for detailed field descriptions.
5. Click **Save** when you are done. After you complete the edits, if you entered the name in upper case, the procedure name that you just entered is displayed in title case.
6. Click **OK**. The new procedure appears in the list on the left side of the CP Manager window. Check that the procedure is placed in the correct treating specialty folder.
7. Click **Print** if you want to print a Procedure report. See [Printing Reports](#), p. 2-4.



1Figure 6-9

¹ Patch MD*1.0*6 May 2008 Processing Application field added.

¹The following is a screen capture of using File Manager to edit the PROCESSED RESULT field in the CP Definition file (#702.01).

```

>D P^DI

VA FileMan 22.0

Select OPTION: 1  ENTER OR EDIT FILE ENTRIES

INPUT TO WHAT FILE: CP TRANSACTION// 702.01 CP DEFINITION
                                     (310 entries)
EDIT WHICH FIELD: ALL// PROCESS
  1  PROCESSED RESULT
  2  PROCESSING APPLICATION
CHOOSE 1-2: 1 PROCESSED RESULT
THEN EDIT FIELD:

Select CP DEFINITION NAME: PUL
  1  PULMONARY ARTERY CATHETER
  2  PULMONARY ENDOSCOPY
  3  PULMONARY FUNCTION INTERPRET
  4  PULMONARY FUNCTION TEST
  5  PULMONARY PROCEDURES
Press <RETURN> to see more, '^' to exit this list, OR
CHOOSE 1-5: 5  PULMONARY PROCEDURES
PROCESSED RESULT: ?
  Enter the processed result.
  Choose from:
    0      Final Result
    1      Multiple Results
    2      Cumulative Result
PROCESSED RESULT: 1  Multiple Results

Select CP DEFINITION NAME:

```

¹ Patch MD*1.0*11 June 2009 Editing the PROCESSED RESULT field of CP Definition file (#702.01).

Step 4 – Setting Up System Parameters

System parameters are system-wide and affect all procedures and instruments. You must select Clinical Procedure On-Line, and fill in the Imaging Network Share and the VistA Scratch HFS Directory fields for CP to work properly. You can edit the other parameters as required for your site.

Here is a list of the system parameters:

* Indicates fields that must be filled in for CP to work properly.

[Allow non-instrument attachments](#)

[Bypass CRC Checking](#)

[Clinical Procedures Home Page](#)

*[Clinical Procedures On-Line](#)

¹* [CP/BGP Transfer Directory](#)

[CRC Values](#)

[Days to keep instrument data](#)

[Imaging File Types](#)

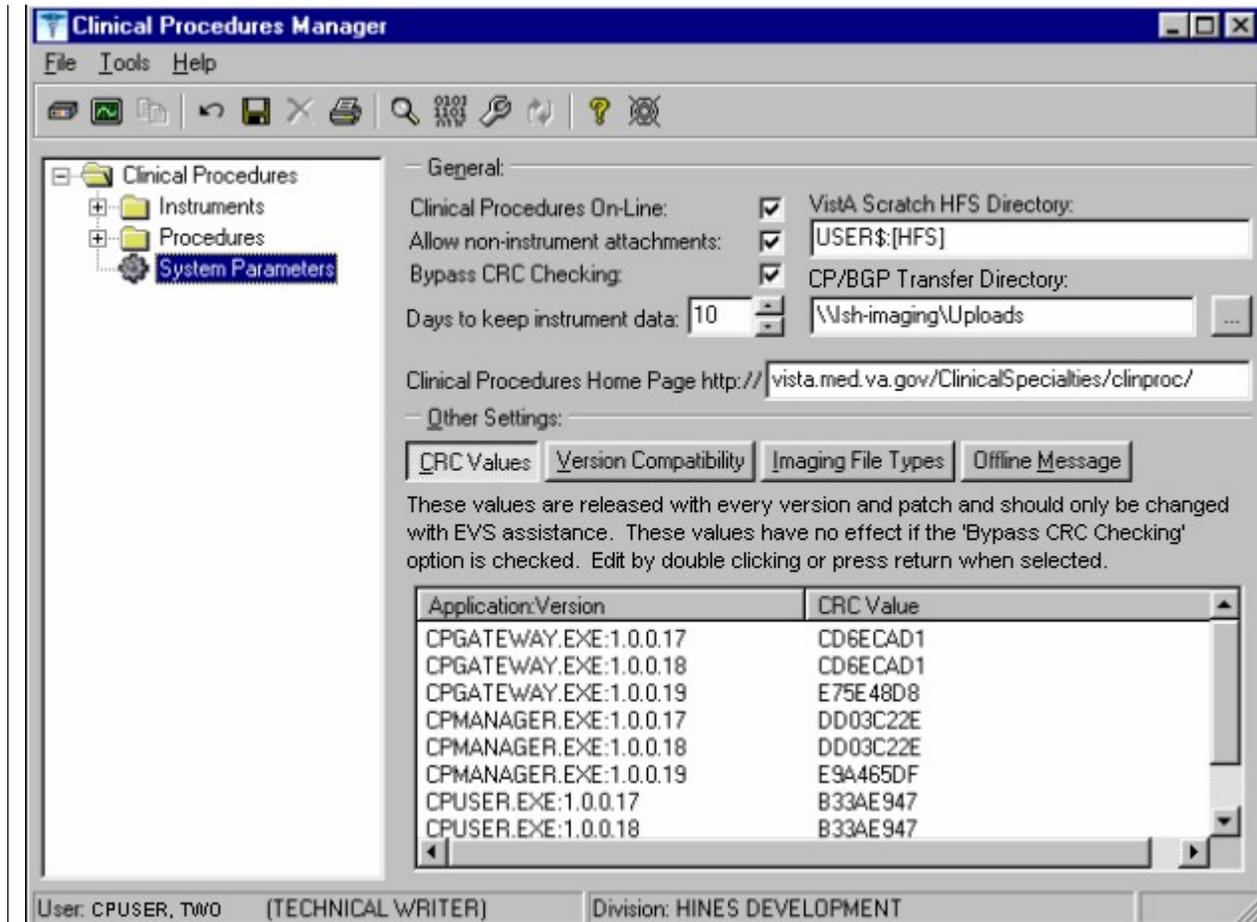
[Offline Message](#)

[Version Compatibility](#)

* [VistA Scratch HFS Directory](#)

¹ Patch MD*1.0*4 September 2006 Imaging Network Share directory name changed to CP/BGP Transfer Directory.

1. Click **System Parameters**, which is displayed under the Clinical Procedures folder. The System Parameters Edit window is displayed. See Figure 6-10.
2. Enter information in the necessary fields and in the optional fields as needed by your site.



1Figure 6-10

Allow non-instrument attachments

Select if you want to let users attach files from the network to studies. If selected, the +Files icon displays in the Study window in CP User and lets the user select attachments. Indicates if external attachments (documents) are allowed including when an instrument has not created data.

¹ Patch MD*1.0*4 September 2006 Imaging Network Share directory name changed to CP/BGP Transfer Directory.

Be sure to select **Allow non-instrument attachments** if you selected the **Require External Data field in CP Manager** for a specific procedure. If you do not select Allow non-instrument attachments, you will not be able to attach files to a procedure.

Bypass CRC Checking

Select if you want to bypass CRC (Cyclical Redundancy Check) during startup. When a CP application starts up, it can check with the server to be sure that the checksum of the application that is running is the same as the checksum of the application that was distributed. If the checksum values do not match, a message displays stating that the values do not match. Even if values don't match, you can continue using CP.

The checksum value is associated with the version number of the software. You might want to bypass this check when your site is running CP in test mode. If you are running different versions of the application, then the checksum values will not match.

Clinical Procedures Home Page

Displays the Clinical Procedures home page and directs the browser to this page when accessed. This parameter is used by the client application in the Help menu when the user selects the option Clinical Procedures on the Web.

Note: The MDPOST routine in the KIDS build sets this field during installation. The data in the parameter is predefined. Do not modify this parameter unless the site is performing local modifications to the client software.

Clinical Procedures On-Line

Must select if you want to use CP User and CP Gateway. If this parameter is not selected, a warning message is displayed. (If a message has been entered into the Offline Message parameter, that message is displayed when the user tries to access CP User.)

This parameter is only effective when the VistA system is functioning and it is useful if you want to restrict access to Clinical Procedures. For example, you can set this field to offline if you are loading a newer version of CP.

CP/BGP Transfer Directory

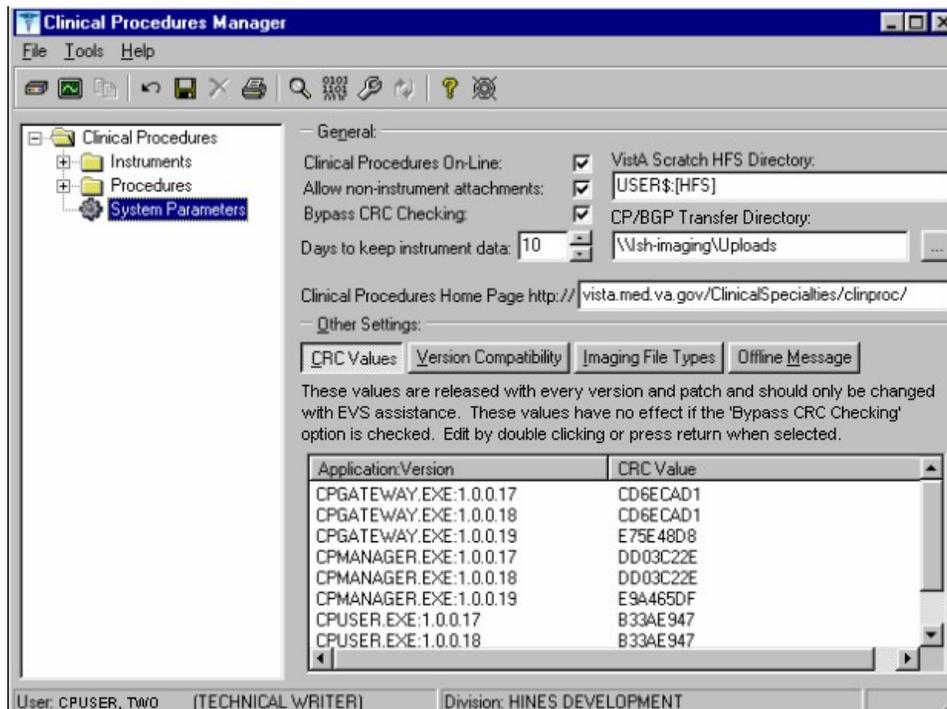
Enter the shared directory that is accessed by the Imaging Background Processor (BGP) and CP Gateway. Reports generated from text need to be placed in a location that can be accessed by the BGP. The Network share must not reside physically on the Imaging RAID. You can also use Browse to select the directory. Must be filled in for CP to work properly.

CRC Values

A site can check that a specific build of the application is running on the client. This level of checking is not mandatory and you can use the Bypass CRC Checking parameter if the site does not want this level of security.

If a site is running more than one version of the application or is testing a new patch, this field can contain multiple entries, (Figure 6-11). Each entry contains the name of the application with extension (no directory path) followed by a colon ':' and the executable version number '#.#.#.#'. Each of these entries contains the CRC value for that particular version of the executable. You can also obtain CRC values for a version of an executable from the About menu or by selecting **CP Manager > Tools > Calculate a File's CRC Value**.

Note: The MDPOST routine in the KIDS build sets this field during installation. The data in the parameter is predefined. Do not modify this parameter unless the site is performing local modifications to the client software



1Figure 6-11

¹ Patch MD*1.0*4 September 2006 Imaging Network Share directory name changed to CP/BGP Transfer Directory.

Calculating a File's CRC Value

You can calculate a file's CRC (Cyclical Redundancy Check) value to determine if the file is the exact same file as the one that was distributed. CRC values are recalculated every time an application is compiled.

1. Select **Tools > Calculate a file's CRC Value**.
2. Select the file.
3. You can copy the CRC value and paste it into a text file for reference purposes.

Days to keep instrument data

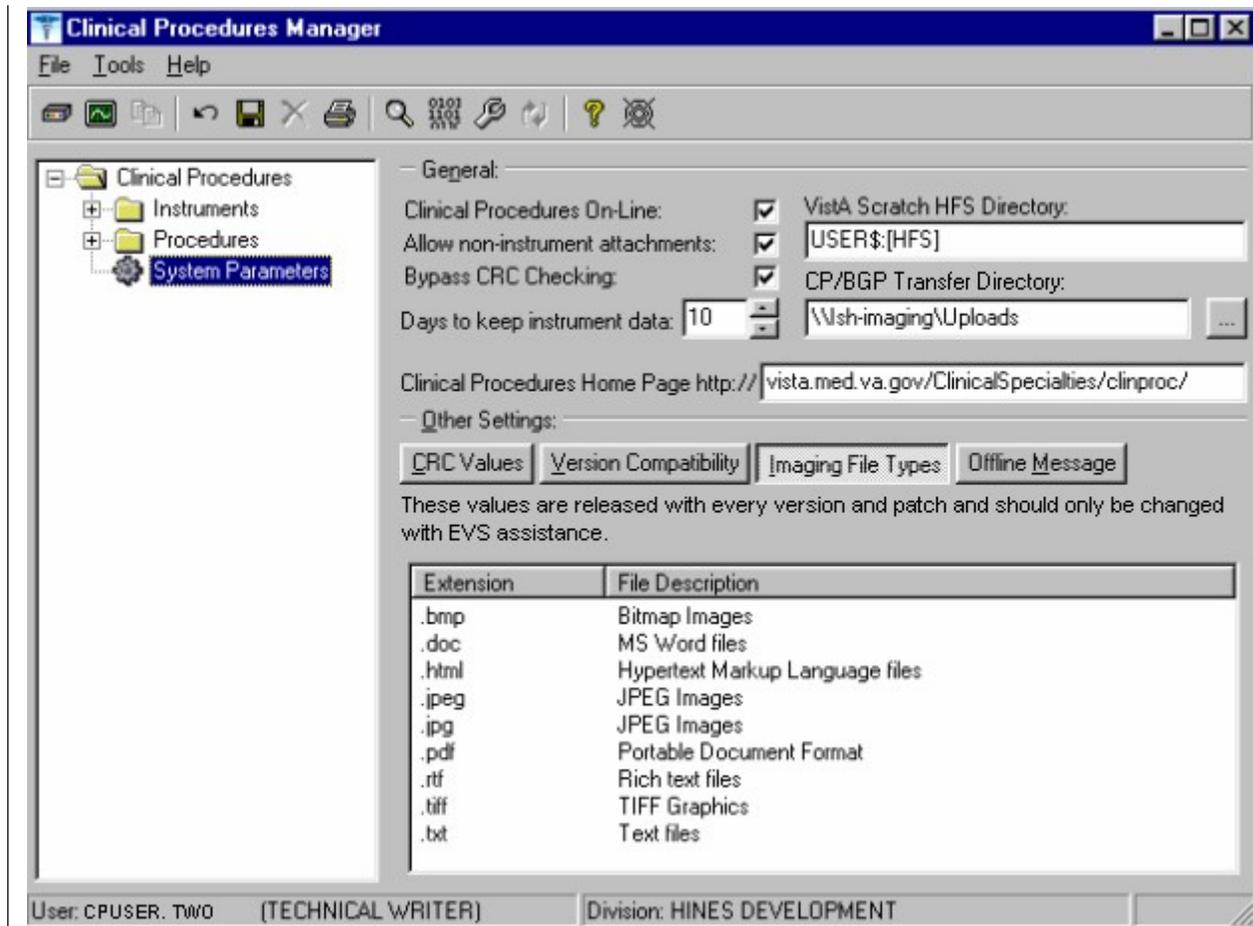
Enter the number of days (0-365) to save data from auto-instruments, after the data has been associated with a Clinical Procedures study. If the data has not been associated with a study, the data is not purged from the temporary storage area. Enter 0 or leave the field empty if you want the data to be retained forever.

Note: CP Gateway purges data daily. This purge only deletes the raw data that comes from the instrument. CP Gateway keeps data for a specified number of days based on the entry in "Days to keep Instrument Data". Data older than this is purged. The data in Item Value field (#.1) and Item Text field (#.2) of the Upload Item multiple in the CP Results file (#703.1) are purged.

Imaging File Types

Verifies that a file type submitted by an instrument or user is acceptable and can be sent to the VistA Imaging RAID. The Open a Study option in CP User uses this system parameter to determine if a file is an acceptable file type, (Figure 6-12).

Note: The MDPOST routine in the KIDS build sets this field during installation. The data in the parameter is predefined. Do not modify this parameter unless the site is performing local modifications to the client software

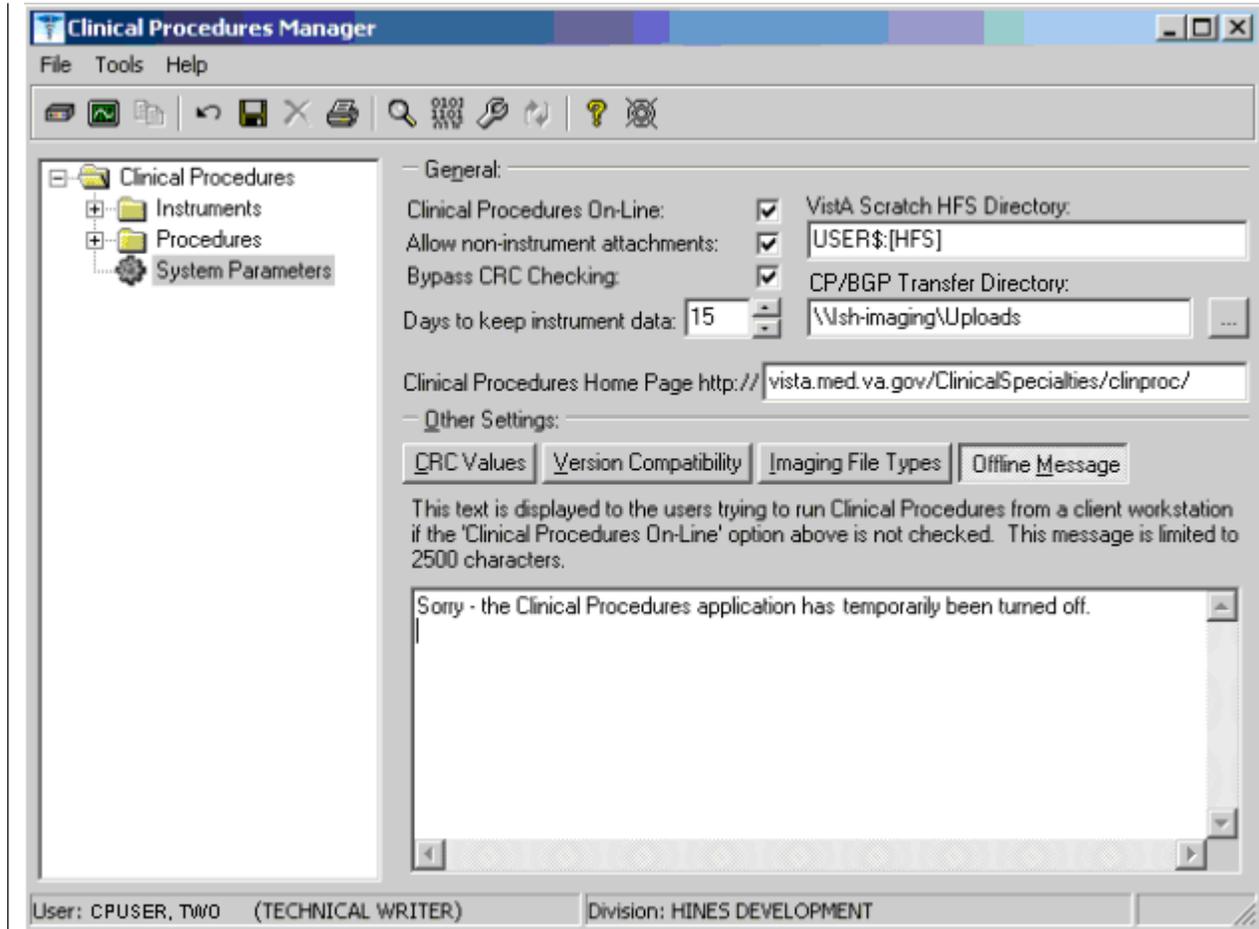


1Figure 6-12

¹ Patch MD*1.0*4 September 2006 Imaging Network Share directory name changed to CP/BGP Transfer Directory.

Offline Message

Enter a message that users see when they try to activate CP User and Clinical Procedures is offline. This message only displays when the Clinical Procedures On-line parameter is not checked. See Figure 6-13.



¹Figure 6-13

Version Compatibility

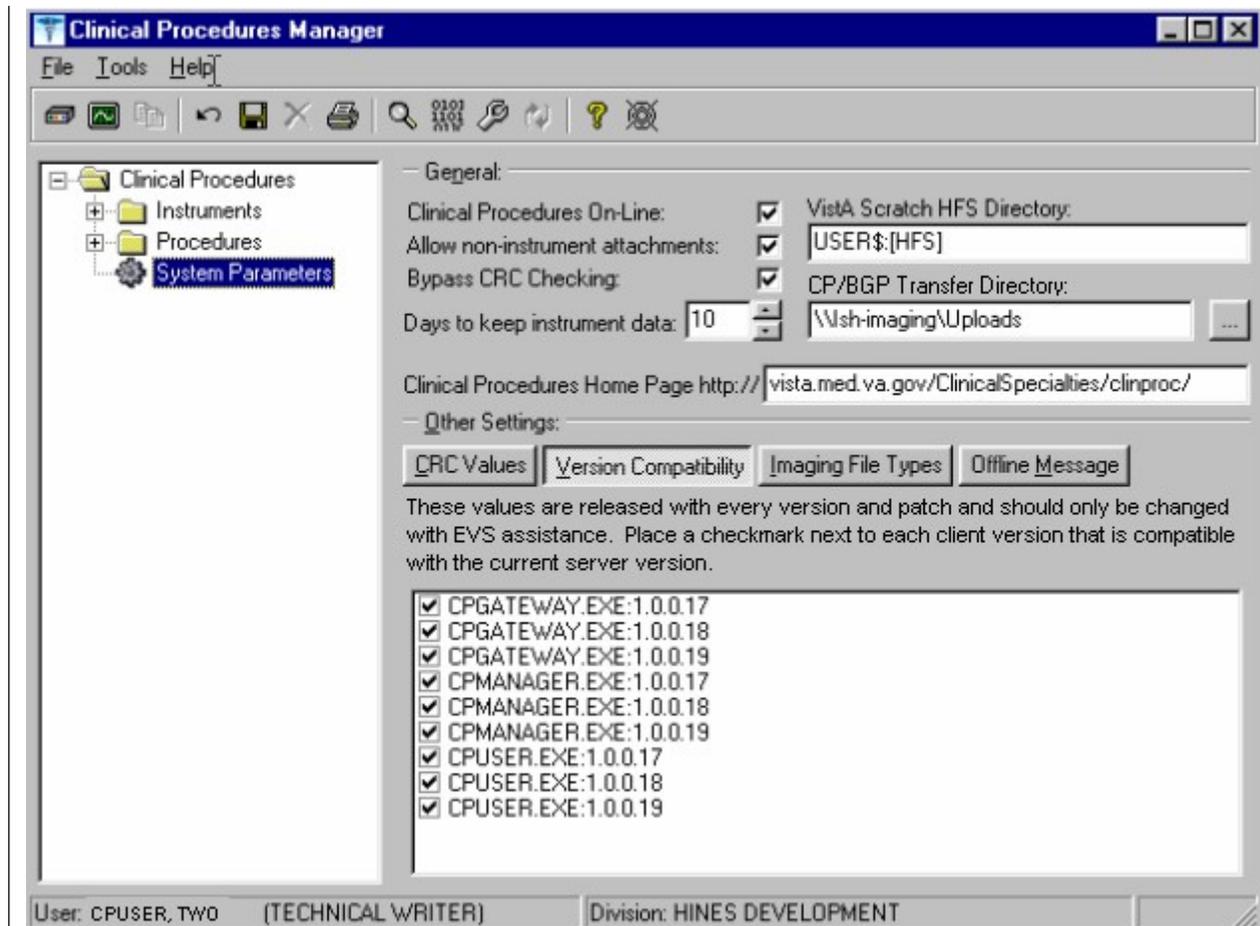
Displays a list of client versions, identified by their executable name and windows file version, which are compatible with the currently running server version. More than one version of the software may be flagged as compatible for backward compatibility. See Figure 6-14.

To check the client version number:

¹ Patch MD*1.0*4 September 2006 Imaging Network Share directory name changed to CP/BGP Transfer Directory.

1. Open **Windows Explorer** and locate the Clinical Procedures folder.
2. Right-click CPGateway.exe, or CPUser.exe., or CPManager.exe.
3. Select **Properties**, and then click the **Version** tab. The version number, such as 1.0.0.17, is displayed.
4. Go back to **CP Manager**. Double-click **Clinical Procedures**, and then click **System Parameters**.
5. In the **Version Compatibility** tab, select each version that is compatible with the current server version, (Figure 6-14).

Note: The MDPOST routine in the KIDS build sets this field during installation. The data in the parameter is predefined. Do not modify this parameter unless the site is performing local modifications to the client software



¹Figure 6-14

¹ Patch MD*1.0*4 September 2006 Imaging Network Share directory name changed to CP/BGP Transfer Directory.

If an executable version is not compatible, the following message is displayed when you try to use a Clinical Procedures application:

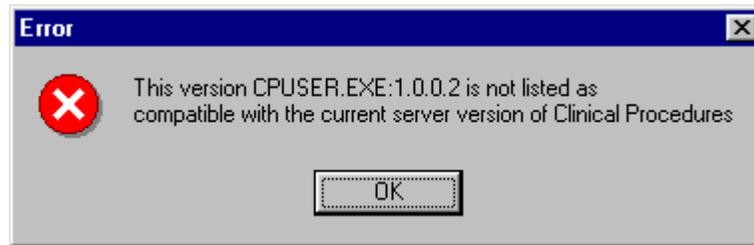


Figure 6-15

If the application is CP Manager, the user is allowed to continue. If the application is CP User, the user needs to contact IRM because the client needs to be upgraded to the current version.

VistA Scratch HFS Directory

Clinical Procedures uses the Host File Server (HFS) functionality in the VA Kernel to create reports. VistA broker processes require full read, write, and delete access to this directory. (Check with IRM about this directory.) If this directory is not filled in, CP tries to use the broker environment directory. Must be filled in for CP to work properly.

¹Step 5 – Exported Kernel XPAR Parameters

Exported Kernel XPAR Parameters for Patch MD*1.0*14

There are four Kernel XAR Parameters exported with patch MD*1*14.

- MD CHECK-IN PROCEDURE LIST
- MD CLINIC QUICK LIST
- MD CLINICS WITH MULT PROC
- MD USE APPT WITH PROCEDURE

A new option called MD AUTO CHECK-IN SETUP was added to setup and implement procedures that will use auto study check-in. Once a procedure is set up to use the auto study check-in functionality in the MD CHECK-IN SETUP option, the software will check-in any existing order requests with the status of “PENDING”, “ACTIVE”, and “SCHEDULED” in the Consult Request Tracking package.

Note: If your site uses appointments, schedule them **before** you enter the procedures for auto check-in. If you do not, the patients associated with those appointments will need to be manually checked in.

This option collects the following information:

- Use Appointment with procedure? (Yes/No) (Required) – The default is “NO”, if the site does not schedule procedures before the order is entered. Enter “YES” if the procedure appointment is scheduled before the order is entered and the ordering provider selects the appointment for the procedure during ordering in CPRS.
- Procedure (Required)– Enter the CP Definition that will be using the auto study check-in functionality.
- Schedule Appointment? (Required) - Enter 0 for None, 1 for Outpatient, 2 for Inpatient, or 3 for Both. This indicates that the site schedules appointments for inpatient, outpatients, both, or none.
- Clinic (Optional) – Enter the hospital location(s) that will be used for scheduling the procedure.

Note: If no clinic is entered in the setup, CP will use the hospital location defined in the **HOSPITAL LOCATION** field of the CP Definition file (#702.01) as the location of the visit for the CP study check-in.

The following two pages contain a screen capture of the MD AUTO CHECK-IN SETUP option:

¹ Patch MD*1.0*14 March 2008 Exported Kernel XPAR Parameters, option, and screen sample added.

Setting Up Clinical Procedures

Select OPTION NAME: MD AUTO CHECK-IN SETUP Auto Study Check-In Setup
Auto Study Check-In Setup
Use Appointment with procedure? NO// ?

Default should be 'N' as most sites do not schedule procedures before the order is entered. Select 'Y' if the procedure appointment is scheduled before the order is entered and the ordering provider selects the appointment for the procedure.
Enter either 'Y' or 'N'.

Use Appointment with procedure? NO//

Procedure: ?
Enter a CP Definition for the procedure to have auto CP study check-in.

Answer with CP DEFINITION NAME
Do you want the entire CP DEFINITION List? N (No)

Procedure: COLONOSCOPY
Schedule Appointment?: ?

REQUIRED field for the procedure to have auto CP study check-in.
Enter a "^" will exit completely.

Enter 0 if you do not schedule appointments.
1 if you only schedule appointments for outpatients.
2 if you only schedule appointments for inpatients.
3 if you schedule appointments for both 1 and 2.

Select one of the following:

0	None
1	Outpatient
2	Inpatient
3	Both

Schedule Appointment?: Both
Clinic: ?
Only required, if appointments are scheduled for the procedure.
Enter the clinic used for scheduling the procedure.

Answer with HOSPITAL LOCATION NAME, or ABBREVIATION, or TEAM
Do you want the entire 112-Entry HOSPITAL LOCATION List? N (No)
Clinic: GI LAB PIPER,ALPHA

Enter another clinic for the same procedure? NO// ?

Enter either 'Y' or 'N', if you want to assign more than one clinic.

Enter another clinic for the same procedure? NO//YES

Clinic: TEST
1 TEST/PROSTHETICS OBRIEN,FRANCES U
2 TEST1
3 TEST1234
4 TEST3232

CHOOSE 1-4: 2 TEST1

Enter another clinic for the same procedure? NO//

Procedure: ?
Enter a CP Definition for the procedure to have auto CP study check-in.

```

COLONOSCOPY
Answer with CP DEFINITION NAME
Do you want the entire CP DEFINITION List? N (No)

Procedure: EKG, ROUTINE (12 LEADS)
Schedule Appointment?: 0 None

Procedure:
>

```

¹Exported Kernel XPAR Parameters for Patch MD*1.0*6

There are four Kernel XPAR Parameters exported with Patch MD*1.0*6.

PARAMETER DEFINITION:

- MD APPOINT END DATE
- MD APPOINT START DATE
- MD COMPL PROC DISPLAY DAYS
- MD DAYS TO RETAIN COM STUDY

The users can edit the parameters using the Edit Parameter Values option, [XPAR EDIT PARAMETER].

The following is a screen capture of the parameter usage:

```

D ^XUP
Setting up programmer environment
Terminal Type set to: C-VT100
You have 2983 new messages.
Select OPTION NAME: XPAR EDIT PARAMETER          Edit Parameter Values
Edit Parameter Values
                --- Edit Parameter Values ---
Select PARAMETER DEFINITION NAME: MD APPOINT START DATE   Start Date for Encounter
Appointments
--- Setting MD APPOINT START DATE for System: DEV.DEV.FO-HINES.MED.VA.GOV ---
Days: ?
Enter a number from 0 to 365.
Days: ??
Enter a number from 0 to 365 for the number of days that will be
used to subtract from today as the start date range of the Encounter
Appointments. If no value is entered, the default value used
will be 200.
Days: 365

-----

Select PARAMETER DEFINITION NAME: MD APPOINT END DATE   End Date for Encounter Appointments
---- Setting MD APPOINT END DATE for System: DEV.DEV.FO-HINES.MED.VA.GOV ----
Days: ?
Enter a number from 0 to 365.
Days: ??
Enter a number from 0 to 365 for the number of days that will be
used to add to today as the end date range of the Encounter
Appointments. If no value is entered, the default value used
will be 0.
Days: 2

```

¹ Patch MD*1.0*6 May 2008 Exported Kernel XPAR Parameters and screen sample added.

```
-----  
Select PARAMETER DEFINITION NAME: MD COMPL PROC DISPLAY DAYS    Completed Proc Display Days  
Setting MD COMPL PROC DISPLAY DAYS for System: REDACTED  
Days: ?  
Enter the number of days from 1 to 365.  
Days: ??  
The number of days the completed procedure requests will be  
displayed in the CP Check-in screen.  
Days: 365  
-----
```

```
-----  
Select PARAMETER DEFINITION NAME: MD DAYS TO RETAIN COM STUDY    Days to Retain Completed  
Study  
Setting MD DAYS TO RETAIN COM STUDY for System: REDACTED  
Days: ?  
Enter the number of days from 1 to 365.  
Days: ??  
The number of days after check-in date/time to display the study  
that has been complete in the CPUser application. Studies that have  
procedures with multiple or cumulative results are NOT included.  
Cumulative and multiple results studies will have a default value of  
365.  
Days:  
-----
```

```
Select PARAMETER DEFINITION NAME:
```

¹Exported Kernel XPAR Parameters for Patch MD*1.0*11

There are three XPAR Parameters exported with patch MD*1.0*11. They are the following:

- MD CLINIC ASSOCIATION
- MD OLYMPUS 7
- MD USE APPOINTMENT

Parameter MD CLINIC ASSOCIATION will be used by option MD AUTO CHECK-IN SETUP. The users can edit the MD OLYMPUS 7 and MD USE APPOINTMENT parameters using the Edit Parameter Values option,[XPAR EDIT PARAMETER].

```
D ^XUP  
Setting up programmer environment  
Terminal Type set to: C-VT100  
  
Select OPTION NAME: XPAR EDIT PARAMETER          Edit Parameter Values  
Edit Parameter Values  
          --- Edit Parameter Values ---  
  
Select PARAMETER DEFINITION NAME: MD USE APPOINTMENT    Use Appointment Location  
  
---- Setting MD USE APPOINTMENT for System: DEV.DEV.FO-HINES.MED.VA.GOV ----  
Use Appointment location: ??
```

¹ Patch MD*1.0*11 June 2009 Exported XPAR Parameters sample added.

Set this value to Yes to allow CPUser to use the location of the appointment selected during CP study check-in for the workload. Otherwise, the hospital location of the CP Definition will be used. If no value is entered, the default value is No.

Use Appointment location:

Select PARAMETER DEFINITION NAME: MD OLYMPUS 7 MD OLYMPUS 7

----- Setting MD OLYMPUS 7 for System: DEV.DEV.FO-HINES.MED.VA.GOV -----
Yes/No: ??

This parameter definition indicates whether the Olympus device is version 7.3.7. The value is Yes/No. The default value is "No".

Yes/No:

¹ Exported Kernel XPAR Parameter for Patch MD*1.0*21

There are three XPAR Parameters exported with patch MD*1.0*21. They are the MD GET HIGH VOLUME, MD NOT ADMN CLOSE MUSE NOTE, and MD USE NOTE.

The MD HIGH VOLUME PROCEDURE SETUP option is used for the high volume procedure enhancement. It lets users enter procedures that are high volume such as the electrocardiogram. The users can also indicate whether the text impression should be obtained from the Health Level 7 message from the device and add it to the note or add it to the Significant Findings of the procedure. This option excludes the selection of Hemodialysis procedures because they are handled through the CP Hemodialysis application and procedures that have "Cumulative Result" as the PROCESSED RESULT. The table below shows different ways to setup a high volume procedure:

<u>Procedure</u>	<u>Text</u>	<u>Setup</u>
Any	No	Auto Closure with Proxy User
EKG(Muse)	Yes	Auto Closure with Proxy User, Auto Closure with Muse interpreter, or Significant Findings
Any	Yes	Auto Closure with Proxy User or Significant Findings

An example of how the option is used to setup an EKG with auto closure of an interpreter is shown below.

```
Select OPTION NAME: MD HIGH VOLUME PROCEDURE SETUP           High Volume Procedure Setup High Volume
Procedure Setup
Procedure: EKG
1  EKG, ROUTINE (12 LEADS)
```

¹ Patch MD*1.0*21 June 2010 Parameter Definition added.

Setting Up Clinical Procedures

```
2 EKG ECG
CHOOSE 1-2: 1 EKG, ROUTINE (12 LEADS)

Get Text? ?

Indicate whether the text from the result should or should not be obtained.
Enter either 'Y' or 'N'.

Get Text? YES
Use Interpreter to close note? ?

If 'YES', the interpreter of the result will be used to close
the note. If 'NO', the Proxy service will be used.
Enter either 'Y' or 'N'.

Use Interpreter to close note? YES

Procedure:
```

An example of how the option is used to setup a Colonoscopy with significant findings is shown below.

```
Select OPTION NAME: MD HIGH VOLUME PROCEDURE SETUP      High Volume Procedure Setup High Volume
Procedure Setup

Procedure: COLON
1 COLONOSCOPY
2 COLONOSCOPY - HIST
CHOOSE 1-2: 1 COLONOSCOPY
Get Text? YES
Do Not Auto Close Note? No// ?

If 'YES', the text of the result will be in the significant finding of the
procedure.
If 'NO', the default auto closure will be used.
Enter either 'Y' or 'N'.

Do Not Auto Close Note? No// YES
```

If “NO” is entered for the prompt, “Do Not Auto Close Note?”, the proxy user will be used to auto close the note. If “YES”, Significant findings will be used. The only time the user will see the prompt “Use Interpreter to Close the Note?”, is when the procedure uses the Muse device such as the EKGs.

At the Procedure prompt, you can enter a “?”. At initial data entry, there will be no display but the CP Definition search is available. Once you have setup procedures, you will see a list of the procedures entered displayed when you enter a question mark. You will see the procedure name, text or no text, and Auto (auto closure with proxy), SF (Significant Findings), or Muse Interpreter) displayed; otherwise, you can search for a CP Definition.

```
Select OPTION NAME: MD HIGH VOLUME PROCEDURE SETUP      High Volume Procedure
Setup
High Volume Procedure Setup

Procedure: ?

COLONOSCOPY                                Text      SF
EKG, ROUTINE (12 LEADS)                    Text      Muse Interpreter
```

SPIROMETRY	No Text	Auto
Answer with CP DEFINITION NAME, or ID Do you want the entire CP DEFINITION List?		

You can remove an existing procedure that was setup as a high volume procedure. When you select a procedure that was already entered, the option will prompt you with a question, “ Delete current procedure setup? NO//” that has a default answer of “NO”. If “YES” is entered, the procedure will be deleted from the high volume procedure list.

Select OPTION NAME: MD HIGH VOLUME PROCEDURE SETUP High Volume Procedure Setup High Volume Procedure Setup
Procedure: SPIROMETRY Delete current procedure setup? NO// YES...Procedure deleted
Procedure:

7. ¹Application Proxy User

An Application Proxy user called CLINICAL,DEVICE PROXY SERVICE will be created with the post-init routine of patch MD*1.0*21. This user will be used to administratively close the note associated with the study for high volume procedures. After the installation of patch 21, the IRM Programmer support at the site should check the application proxy user to ensure it was created and enter a SIGNATURE BLOCK TITLE for this user. The site can designate its own SIGNATURE BLOCK TITLE. The example below shows how one can use VA FileMan to view the application proxy user in the NEW PERSON file (#200).

```
VA FileMan 22.0
```

```
Select OPTION: INQUIRE TO FILE ENTRIES
```

```
OUTPUT FROM WHAT FILE: CP RESULT REPORT// 200 NEW PERSON
                        (1197 entries)
```

```
Select NEW PERSON NAME: CLINICAL,DEVICE PROXY SERVICE
ANOTHER ONE:
```

```
STANDARD CAPTIONED OUTPUT? Yes// (Yes)
```

```
Include COMPUTED fields: (N/Y/R/B): NO// - No record number (IEN), no Computes
```

```
DISPLAY AUDIT TRAIL? No// NO
```

```
NAME: CLINICAL,DEVICE PROXY SERVICE DATE ENTERED: MAR 13, 2009
```

```
CREATOR:XXXXX,XXXX
```

```
SECONDARY MENU OPTIONS: MD GUI MANAGER
```

```
SECONDARY MENU OPTIONS: MD GUI USER
```

```
TIMESTAMP: 61433,34906
```

```
User Class: APPLICATION PROXY
```

```
ISPRIMARY: Yes
```

The first example below shows how you can add a Signature Block Title for CLINICAL,DEVICE PROXY SERVICE user. The second example below shows what the record looks like afterwards.

```
Select OPTION: 1 ENTER OR EDIT FILE ENTRIES
```

```
INPUT TO WHAT FILE: NEW PERSON//
```

```
EDIT WHICH FIELD: ALL// SIGNATURE BLOCK TITLE
```

```
THEN EDIT FIELD:
```

```
Select NEW PERSON NAME: CLINICAL,DEVICE PROXY SERVICE
```

```
SIGNATURE BLOCK TITLE: Clinical,Device Proxy Service
```

```
OUTPUT FROM WHAT FILE: NEW PERSON//
```

```
Select NEW PERSON NAME: CLINICAL,DEVICE PROXY SERVICE
```

```
ANOTHER ONE:
```

```
STANDARD CAPTIONED OUTPUT? Yes// (Yes)
```

```
Include COMPUTED fields: (N/Y/R/B): NO// - No record number (IEN), no Computes
```

```
DISPLAY AUDIT TRAIL? No// NO
```

```
NAME: CLINICAL,DEVICE PROXY SERVICE DATE ENTERED: MAR 13, 2009
```

```
CREATOR:XXXXX,XXXX
```

```
SIGNATURE BLOCK TITLE: Clinical, Device Proxy Service
```

```
SECONDARY MENU OPTIONS: MD GUI MANAGER
```

```
SECONDARY MENU OPTIONS: MD GUI USER
```

```
TIMESTAMP: 61433,34906
```

¹ Patch MD*1.0*21 June 2010 Added Application Proxy User.

Application Proxy User

User Class: APPLICATION PROXY

ISPRIMARY: Yes

8. Scheduled Options

¹Two options are added by patch MD*1*14.

NAME: **MD SCHEDULED STUDIES** MENU TEXT: Scheduled Studies
TYPE: run routine CREATOR: REDACTED
PACKAGE: CLINICAL PROCEDURES
DESCRIPTION: This option is tasked to run daily. It will process the HL7 messages that need to be sent to the device on a daily basis for CP studies.
ROUTINE: EN1^MDWORSR SCHEDULING RECOMMENDED: YES
UPPERCASE MENU TEXT: SCHEDULED STUDIES

NAME: **MD STUDY CHECK-IN** MENU TEXT: Study Check-in
TYPE: run routine CREATOR: REDACTED
PACKAGE: CLINICAL PROCEDURES
DESCRIPTION: This option is tasked to run daily. It checks-in CP studies for procedures that require multiple encounters such as Hemodialysis, Respiratory Therapy, and Sleep Studies.
ROUTINE: CLINICPT^MDWORSR SCHEDULING RECOMMENDED: YES
UPPERCASE MENU TEXT: STUDY CHECK-IN

The two options needs to be scheduled to run daily. Schedule the option MD SCHEDULED STUDIES to start the next day after patch installation at 4am. This task will process the studies that are associated with the appointments that are dated for that day. If the procedure request is associated with a future appointment, the study that is auto checked-in will have a status of "New". The MD SCHEDULED STUDIES task will process the study and change the status to "Pending Instrument Data".

Sample Screen capture of the scheduled option:

```
Select OPTION to schedule or reschedule: MD
  1 MD SCHEDULED STUDIES Scheduled Studies
  2 MD STUDY CHECK-IN Study Check-in
CHOOSE 1-2: 1 MD SCHEDULED STUDIES Scheduled Studies (R)
              Edit Option Schedule
Option Name: MD SCHEDULED STUDIES
Menu Text: Scheduled Studies TASK ID: 2619819

-----
QUEUED TO RUN AT WHAT TIME: MAY 22,2007@04:00
DEVICE FOR QUEUED JOB OUTPUT:
QUEUED TO RUN ON VOLUME SET: site volume
RESCHEDULING FREQUENCY: 1D
TASK PARAMETERS:
```

¹ Patch MD*1.0*14 March 2008 Add Scheduled Options.

Scheduled Options

SPECIAL QUEUEING: Startup Persistent

COMMAND: Press <PF1>H for help Insert

Schedule the option MD STUDY CHECK-IN to start to run the next day after patch installation at 5am. If a procedure request requires multiple encounters, this task will auto check-in the study for the multiple encounters using the appointment scheduled. The RESCHEDULING FREQUENCY can be more than 1D (1 day), if your site schedule appointment for the day after 5am and the task will not be able to pick it up.

Select OPTION to schedule or reschedule: MD STUDY CHECK-IN Study Check-in
...OK? Yes// (Yes)
(R)

Edit Option Schedule

Option Name: MD STUDY CHECK-IN

Menu Text: Study Check-in

TASK ID: 2620037

QUEUED TO RUN AT WHAT TIME: MAY 22,2007@05:00

DEVICE FOR QUEUED JOB OUTPUT:

QUEUED TO RUN ON VOLUME SET: site volume

RESCHEDULING FREQUENCY: 1D

TASK PARAMETERS:

SPECIAL QUEUEING: Startup Persistent

COMMAND: Press <PF1>H for help Insert

¹One option was added with patch MD*1.0*11 called MD PROCESS NOSHOW/CANCEL.

NAME: **MD PROCESS NOSHOW/CANCEL**

MENU TEXT: Process No Show/Cancel Studies

TYPE: run routine

CREATOR: REDACTED

PACKAGE: CLINICAL PROCEDURES

DESCRIPTION: This option is tasked to run daily. It will check for any appointment that is No Show or Cancelled for CP studies in the "Pending Instrument Data" status.

¹Patch MD*1.0*11 June 2009 Added new scheduled option.

ROUTINE: EN1^MDWCAN
 UPPERCASE MENU TEXT: PROCESS NO SHOW/CANCEL STUDIES

This option should be scheduled to run once daily at the end of the day. It is recommended that the option run at the end of the day at 4pm or 5pm. You can increase the RESCHEDULING FREQUENCY to every hour (1H) or every 90 seconds (90S) to pick up no shows and cancellations of the same day.

```
Select OPTION to schedule or reschedule: MD PROCESS NOSHOW/CANCEL      Process
No Show/Cancel Studies
...OK? Yes//      (Yes)
(R)
Edit Option Schedule
Option Name: MD PROCESS NOSHOW/CANCEL
Menu Text: Process No Show/Cancel Studies      TASK ID: 3331757

-----

QUEUED TO RUN AT WHAT TIME: JUN 23,2008@16:00

DEVICE FOR QUEUED JOB OUTPUT:

QUEUED TO RUN ON VOLUME SET: Site volume

RESCHEDULING FREQUENCY: 1D

TASK PARAMETERS:

SPECIAL QUEUEING: Startup Persistent

-----

COMMAND:      Press <PF1>H for help      Insert
```

NOTE: It is recommended that all three tasks have the SPECIAL QUEUEING field be set as Startup Persistent so if the task is stopped unexpectedly, it will be re-started

¹Patch MD*1*21 exported a new option, MD PROCESS RESULTS, that needs to be scheduled with the frequency of every hour daily. This task will update the procedure status to "Complete". This task will work in conjunction with the administrative closure of the high volume procedure note.

```
Select OPTION to schedule or reschedule: MD PROCESS
1 MD PROCESS NOSHOW/CANCEL      Process No Show/Cancel Studies
2 MD PROCESS RESULTS      MD Process Results
CHOOSE 1-2: 2 MD PROCESS RESULTS      MD Process Results      (R)
Edit Option Schedule
Option Name: MD PROCESS RESULTS
Menu Text: MD Process Results      TASK ID: 3667983

-----

QUEUED TO RUN AT WHAT TIME: MAY 6,2009@08:00

DEVICE FOR QUEUED JOB OUTPUT:

QUEUED TO RUN ON VOLUME SET:

RESCHEDULING FREQUENCY: 1H

TASK PARAMETERS:
```

¹ Patch MD*1.0*21 June 2010 Added new scheduled option MD PROCESS RESULTS.

Scheduled Options

SPECIAL QUEUEING: Startup Persistent			
Exit	Save	Next Page	Refresh

9. Setting Up Consults for Clinical Procedures

This section explains how to set up services and procedures in the Consults package. Be sure the GMRC*3*17 patch is present before you implement Consults.

Topics discussed in this chapter are:

- [Step 1 – Setting Up Consult Services](#)
- [Step 2 – Creating Consult Procedures](#)

Step 1 – Setting Up Consult Services

Consult services must be set up so that users can receive alerts about procedure status and be able to process the procedure. You need to determine if a consult service exists that can be used only for CP procedures or if you need to create new consult services. A CP consult service is a subspecialty service that deals specifically with CP procedures. Be sure to use the CP prefix when you add a service.

Create a New Consult Service/Define an Interpreter:

You use the Consult Management menu to create a new consult service, to define an interpreter, and add that new consult service under the All Services specialty/subspecialty. A new consult service has to be added to the “All Services” specialty/subspecialty before the CP procedures will appear on the Consults tab in CPRS.

```
RPT   Consult Tracking Reports ...
SS    Set up Consult Services
SU    Service User Management
CS    Consult Service Tracking
RX    Pharmacy TPN Consults
GU    Group update of consult/procedure requests
UA    Determine users' update authority
UN    Determine if user is notification recipient
NR    Determine notification recipients for a service
TD    Test Default Reason for Request
LH    List Consult Service Hierarchy
PR    Setup procedures
CP    Copy Prosthetics services
DS    Duplicate Sub-Service
IFC   IFC Management Menu ...
TP    Print Test Page
```

```
***** Select Consult Management Option: SS Set up Consult Services
Select Service/Specialty:CP CARDIOLOGY
Are you adding 'CP CARDIOLOGY' as a new REQUEST SERVICES (the 123RD)? No// Y
(Yes)
```

```
SERVICE NAME: CP CARDIOLOGY// <RET>
ABBREVIATED PRINT NAME (Optional): CARDIOL
```

Setting Up Consults for Clinical Procedures

INTERNAL NAME: <RET>
Select SYNONYM: <RET>
SERVICE USAGE: <RET>
SERVICE PRINTER: <RET>
NOTIFY SERVICE ON DC: <RET>
REPRINT 513 ON DC: <RET>
PREREQUISITE:
 No existing text
 Edit? NO// <RET>
PROVISIONAL DX PROMPT: <RET>
PROVISIONAL DX INPUT: <RET>
DEFAULT REASON FOR REQUEST: <RET>
 No existing text
 Edit? NO// <RET>
RESTRICT DEFAULT REASON EDIT: <RET>

Inter-facility information
IFC ROUTING SITE: <RET>
IFC REMOTE NAME: <RET>
Select IFC SENDING FACILITY: <RET>

To define an interpreter, you can enter a user name in one of the following fields.

Note: Users entered into Update Users W/O Notifications or Update Teams W/O Notifications will not receive alerts.

- INDIVIDUAL TO NOTIFY
- SERVICE TEAM TO NOTIFY
- NOTIFICATION BY PT LOCATION
- UPDATE USERS W/O NOTIFICATIONS
- UPDATE TEAMS W/O NOTIFICATIONS

SERVICE INDIVIDUAL TO NOTIFY: **CPPROVIDER, ONE**
Select SERVICE TEAM TO NOTIFY: **CONSULT TEAM**
Select NOTIFICATION BY PT LOCATION: <RET>
PROCESS PARENTS FOR NOTIFS: <RET>
Select UPDATE USERS W/O NOTIFICATIONS: **CPUSER, THREE**
Select UPDATE TEAMS W/O NOTIFICATIONS: <RET>
Select UPDATE USER CLASS W/O NOTIFS: <RET>
Select ADMINISTRATIVE UPDATE USER: <RET>
Select ADMINISTRATIVE UPDATE TEAM: <RET>
PROCESS PARENTS FOR UPDATES: <RET>

SPECIAL UPDATES INDIVIDUAL: <RET>
RESULT MGMT USER CLASS: <RET>
UNRESTRICTED ACCESS: <RET>
Select SUB-SERVICE/SPECIALTY: <RET>

Add/Edit Another Service? NO// <RET>

Now the service you just created must be added to the All Services service/specialty.

```

Select Consult Management Option: SS Set up Consult Services
Select Service/Specialty:ALL SERVICES GROUPER ONLY
SERVICE NAME: ALL SERVICES// <RET>
ABBREVIATED PRINT NAME (Optional): ALL// <RET>
Select SYNONYM: <RET>
SERVICE USAGE: GROUPER ONLY// <RET>
SERVICE PRINTER: <RET>
NOTIFY SERVICE ON DC: <RET>
REPRINT 513 ON DC: <RET>
PREREQUISITE:
  No existing text
  Edit? NO// <RET>
PROVISIONAL DX PROMPT: <RET>
PROVISIONAL DX INPUT: <RET>
DEFAULT REASON FOR REQUEST:
  No existing text
  Edit? NO// <RET>
RESTRICT DEFAULT REASON EDIT: <RET>

SERVICE INDIVIDUAL TO NOTIFY: CPPROVIDER, ONE
Select SERVICE TEAM TO NOTIFY: CONSULT TEAM
Select NOTIFICATION BY PT LOCATION: <RET>
PROCESS PARENTS FOR NOTIFS: <RET>
Select UPDATE USERS W/O NOTIFICATIONS: CPUSER, THREE
Select UPDATE TEAMS W/O NOTIFICATIONS: <RET>
Select UPDATE USER CLASS W/O NOTIFS: <RET>
Select ADMINISTRATIVE UPDATE USER: <RET>
Select ADMINISTRATIVE UPDATE TEAM: <RET>
PROCESS PARENTS FOR UPDATES: <RET>

SPECIAL UPDATES INDIVIDUAL: <RET>
RESULT MGMT USER CLASS: <RET>
UNRESTRICTED ACCESS: <RET>
Select SUB-SERVICE/SPECIALTY: CP CARDIOLOGY
  Are you adding 'CP CARDIOLOGY' as a new SUB-SERVICE (the 13TH for this
REQUEST SERVICES)? No// Y
  (Yes)
  MNEMONIC:
Select SUB-SERVICE/SPECIALTY: <RET>

Add/Edit Another Service? NO//<RET>

```

Editing Users of an Existing Consult Service:

You can also use the Service User Management option to edit a Consult Service's Update Users fields.

RPT	Consult Tracking Reports ...
SS	Set up Consult Services
SU	Service User Management
CS	Consult Service Tracking
RX	Pharmacy TPN Consults
GU	Group update of consult/procedure requests
UA	Determine users' update authority
UN	Determine if user is notification recipient
NR	Determine notification recipients for a service
TD	Test Default Reason for Request
LH	List Consult Service Hierarchy
PR	Setup procedures
CP	Copy Prosthetics services
DS	Duplicate Sub-Service
IFC	IFC Management Menu ...
TP	Print Test Page

Select Consult Management Option: **SU** Service User Management

Select Service/Specialty: **cp cardiology**

Make sure data is entered for the applicable fields listed below:

SERVICE INDIVIDUAL TO NOTIFY: **CPROVIDER, ONE**
Select SERVICE TEAM TO NOTIFY: **CONSULT TEAM**
Select NOTIFICATION BY PT LOCATION: **<RET>**
Select UPDATE USERS W/O NOTIFICATIONS: **CPUSER, THREE**
Select UPDATE TEAMS W/O NOTIFICATIONS: **<RET>**
Select UPDATE USER CLASS W/O NOTIFS: **<RET>**
Select ADMINISTRATIVE UPDATE USER: **<RET>**
Select ADMINISTRATIVE UPDATE TEAM: **<RET>**
SPECIAL UPDATES INDIVIDUAL: **<RET>**

Select Service/Specialty: **<RET>**

Step 2 - Creating Consult Procedures

Consult procedures in the GMRC file (#123.3) must be linked to clinical procedures. Be sure to use the “CP” prefix when you create new consult procedures to differentiate them from other consult procedures.

The following example shows how to create the consult procedure CP EKG 12 LEAD STAT and link it to the clinical procedure definition EKG, ROUTINE (12 LEADS).

¹**Note:** Add the text “Visit Date: |VISIT DATE|” to the first line of the DEAFULT REASON FOR REQUEST field. This will allow CP to pick up the appointment date/time from CPRS for the order request and use it for the auto CP study check-in. If you do not use appointments at all, you can skip the adding of the text. If your site schedules appointments, but the ordering provider does not select the appointment during ordering, you can still add the text. If there is already text in the DEFAULT REASON FOR REQUEST field, add the visit date text to the very first line.

```
Select Consult Management Option:  PR   Setup procedures
Select Procedure: CP EKG 12 LEAD STAT
NAME:  CP EKG 12 LEAD STAT//  <RET>
INACTIVE: NO//  <RET>
Select SYNONYM: EKG//  <RET>
INTERNAL NAME:  <RET>
Select RELATED SERVICES: CP CARDIOLOGY//  <RET>
TYPE OF PROCEDURE: ECG//  <RET>
CLINICAL PROCEDURE: EKG, ROUTINE (12 LEADS)//  <RET>

PREREQUISITE:
  No existing text
  Edit? NO//  <RET>
PROVISIONAL DX PROMPT: REQUIRED//  <RET>
PROVISIONAL DX INPUT: LEXICON//  <RET>
DEFAULT REASON FOR REQUEST:
1>Visit Date: |VISIT DATE|
2>Patient's heart is beating abnormally.  Needs analysis.
  Edit? NO//  <RET>
RESTRICT DEFAULT REASON EDIT: NO EDITING//  <RET>
```

Orderable Item Updated

Field Descriptions:

NAME: The name of the procedure as it appears in the GMRC Procedure file (#123.3).

INACTIVE: Indicates if a procedure is no longer in use.

SYNONYM: Enter other names commonly used to refer to this procedure.

¹ Patch MD*1.0*14 March 2008 Added visit date setup for auto study check in.

INTERNAL NAME: Enter a name for the procedure that is used internally by the facility.

RELATED SERVICES: Indicates which Consult services from the Request Services (#123.5) file are responsible for processing requests for this procedure.

TYPE OF PROCEDURE: Not applicable.

CLINICAL PROCEDURE: Provides a mapping between the CP Definitions (#702.01) file and the GMRC Procedures file. (CP definition entries must be active before you can map them.) Orders placed for a procedure having a valid entry in this field are processed and resulted using the Clinical Procedures package.

PREREQUISITE: Enter information on any consults or procedures that must be performed prior to ordering this consult. This field is presented to the ordering person upon selecting a Consult service and lets the ordering person abort the ordering if necessary. TIU objects may be embedded within this field, which are resolved for the current patient during ordering. Any TIU objects must be contained within vertical bars, such as |BLOOD PRESSURE|.

PROVISIONAL DX PROMPT: Used by CPRS to determine how to prompt for the provisional diagnosis when ordering this procedure. Set to OPTIONAL if you want the user to be prompted for the provisional diagnosis but also can let the user bypass answering the prompt. Set to SUPPRESS if you do not want the user to be presented with the provisional diagnosis prompt. Set to REQUIRED if you want to enforce the user to answer the prompt before continuing to place the order.

PROVISIONAL DX INPUT: Determines the method that CPRS uses to prompt the user for input of the provisional diagnosis when ordering this procedure. Set to FREE TEXT and the user may type any text from 2-80 characters in length. Set to LEXICON and the user is required to select a coded diagnosis from the Clinical Lexicon.

DEFAULT REASON FOR REQUEST: Enter default text that can be used as the reason for request when ordering this procedure. This field allows boilerplate text to be imported into the reason for request. If the user places an order using a quick order having boilerplate text, that text supersedes any default text stored in this field. This field may contain any text including TIU objects. TIU Objects must be enclosed in vertical bars, such as |PATIENT NAME|.

RESTRICT DEFAULT REASON EDIT: Set to UNRESTRICTED, NO EDITING, or ASK ON EDIT ONLY. If ASK ON EDIT ONLY is used, the user can only edit the default reason if the order is edited before releasing to the service. If a default reason for request exists, the option set in this field affects the ordering person's ability to edit the default reason.

10. Setting Up CPRS for Clinical Procedures

This section explains how to set up notifications and parameters in the CPRS package. Topics discussed in this chapter are:

- [Step 1 – Setting Up the Notification](#) - Recommended
- [Step 2 – Editing Parameters](#) – Some parameters must be defined. See [Step 2 – Editing Parameters](#), p. 10-2.

Step 1 – Setting Up the Notification

You must enable the CONSULT/PROC INTERPRETATION notification if you want to receive the “Ready for interpretation” alert in CPRS. You can enable the alert for one user, several users, or for the entire service. Use the Notification Mgmt Menu [ORB NOT COORD MENU].

- 1 Enable/Disable Notifications
- 2 Erase Notifications
- 3 Set Urgency for Notifications (GUI)
- 4 Set Deletion Parameters for Notifications
- 5 Set Default Recipient(s) for Notifications
- 6 Set Default Recipient Device(s) for Notifications
- 7 Set Provider Recipients for Notifications
- 8 Flag Orderable Item(s) to Send Notifications
- 9 Archive(delete) after <x> Days
- 10 Forward Notifications ...
- 11 Set Delays for Unverified Orders ...
- 12 Set Notification Display Sort Method (GUI)
- 13 Send Flagged Orders Bulletin
- 14 Determine Recipients for a Notification
- 15 Display Patient Alerts and Alert Recipients
- 16 Enable or Disable Notification System
- 17 Display the Notifications a User Can Receive

Select Notification Mgmt Menu Option: **1** Enable/Disable Notifications

Set PROCESSING FLAG Parameters for Notifications

Processing Flag may be set for the following:

- | | | | |
|---|--------------|-----|---------------------------------|
| 1 | User | USR | [choose from NEW PERSON] |
| 2 | Team (OE/RR) | OTL | [choose from OE/RR LIST] |
| 3 | Service | SRV | [choose from SERVICE/SECTION] |
| 4 | Location | LOC | [choose from HOSPITAL LOCATION] |
| 5 | Division | DIV | [HINES DEV. EVALUATION] |
| 6 | System | SYS | [EVL.DEV.ISC-CHICAGO.VA.GOV] |
| 7 | Package | PKG | [ORDER ENTRY/RESULTS REPORTING] |

Enter selection: **Set this parameter according to the individual preference of your site.**

----- Setting Processing Flag -----
Select Notification: ?

Setting Up CPRS for Clinical Procedures

There are currently no entries for Notification.

Answer with OE/RR NOTIFICATIONS NUMBER, or NAME, or PACKAGE ID, or
MESSAGE TEXT

Do you want the entire 49-Entry OE/RR NOTIFICATIONS List? **N** (No)

Select Notification: **CONSULT**/PROC INTERPRETATION

Are you adding CONSULT/PROC INTERPRETATION as a new Notification? Yes// **<RET>**
YES

Notification: CONSULT/PROC INTERPRETATION// **<RET>** CONSULT/PROC INTERPRETATION
CONSULT/PROC INTERPRETATION

Value: ?

Code indicating processing flag for the entity and notification.

Select one of the following:

M	Mandatory
E	Enabled
D	Disabled

Value: **E**nabled

- Select Mandatory to specify that the notification cannot be turned off by the user.
- Select Enabled to specify that the user can turn off the notifications.
- Select Disabled to specify that notifications are not used.

After you set up the notification, you can set up quick orders and place them on appropriate order menus. Refer to the CPRS Setup Guide, which can be found in the [VistA Documentation Library \(VDL\)](#).

Step 2 – Editing Parameters

You can edit the following parameters in CPRS to indicate who should enter Patient Care Encounter information and how Windows messages are sent. You can also add CP User to the CPRS Tools menu.

Use the CPRS Manager menu to set these parameters:

- [Ask Encounter Update \(ORWPCE ASK ENCOUNTER UPDATE\)](#) Required.
- [Broadcast Messages to Other Apps \(ORWOR BROADCAST MESSAGES\)](#) Required.
- [Force PCE Entry \(ORWPCE FORCE PCE ENTRY\)](#) Required.
- [Add CP User to the CPRS Tools Menu](#) Optional.

Ask Encounter Update (ORWPCE ASK ENCOUNTER UPDATE)

The ORWPCE ASK ENCOUNTER UPDATE parameter determines if the user should be prompted to enter encounter information when signing a note. The Encounter Form in the AICS package is used to collect workload data. If a specific Encounter Form is not set up and linked to a hospital location, a generic Encounter Form is presented. Each service that has a study associated with it must set this parameter to Always.

Select OPTION NAME: **CPRS MANAGER** MENU ORMGR CPRS Manager Menu

```
CL    Clinician Menu ...
NM    Nurse Menu ...
WC    Ward Clerk Menu ...
PE    CPRS Configuration (Clin Coord) ...
IR    CPRS Configuration (IRM) ...
```

Select CPRS Manager Menu Option: **IR** CPRS Configuration (IRM)

```
OC    Order Check Expert System Main Menu ...
TI    ORMTIME Main Menu ...
UT    CPRS Clean-up Utilities ...
XX    General Parameter Tools ...
```

Select CPRS Configuration (IRM) Option: **XX** General Parameter Tools

```
LV    List Values for a Selected Parameter
LE    List Values for a Selected Entity
LP    List Values for a Selected Package
LT    List Values for a Selected Template
EP    Edit Parameter Values
ET    Edit Parameter Values with Template
EK    Edit Parameter Definition Keyword
```

Select General Parameter Tools Option: **EP** Edit Parameter Values
--- Edit Parameter Values ---

SELECT PARAMETER DEFINITION NAME: **ORWPCE ASK ENCOUNTER UPDATE** Ask
Encounter Update

ORWPCE ASK ENCOUNTER UPDATE may be set for the following:

1	User	USR	[choose from NEW PERSON]
2	Location	LOC	[choose from HOSPITAL LOCATION]
3	Service	SRV	[choose from SERVICE/SECTION]
4	Division	DIV	[REDACTED]
5	System	SYS	[REDACTED]
6	Package	PKG	[ORDER ENTRY/RESULTS REPORTING]

Enter selection: **Set this parameter according to the individual preference of your site.**

----- Setting ORWPCE ASK ENCOUNTER UPDATE -----
ASK ENCOUNTER UPDATE: **ALWAYS**

If the site wants credit for workload for the inpatient and outpatient, select Always at this prompt.

Broadcast Messages to Other Apps (ORWOR BROADCAST MESSAGES)

The ORWOR BROADCAST MESSAGES parameter tells CPRS to send a message to all VistA applications stating that a new patient record is open or a new TIU note has been selected. This parameter setting allows all applications on the desktop, such as CP User, and VistA Imaging, to synchronize with CPRS. Always set this parameter to System.

Select PARAMETER DEFINITION NAME: **ORWOR BROADCAST MESSAGES** Broadcast
Window Messages to Other Apps

ORWOR BROADCAST MESSAGES may be set for the following:

1	User	USR	[choose from NEW PERSON]
5	System	SYS	[REDACTED]
10	Package	PKG	[ORDER ENTRY/RESULTS REPORTING]

Enter selection: **5** System DEV.DEV.FO-HINES.MED.VA.GOV

- Setting ORWOR BROADCAST MESSAGES for System: DEV.DEV.FO-HINES.MED.VA.GOV -
Enable Broadcasting Windows Messages: YES// **<RET>**

Force PCE Entry (ORWPCE FORCE PCE ENTRY)

If encounter data is missing, the user should be asked to enter the missing data. You must select Yes to the Force GUI PCE ENTRY prompt.

Select PARAMETER DEFINITION NAME: **ORWPCE FORCE PCE ENTRY** Force PCE Entry

ORWPCE FORCE PCE ENTRY may be set for the following:

1	User	USR	[choose from NEW PERSON]
2	Location	LOC	[choose from HOSPITAL LOCATION]
3	Service	SRV	[choose from SERVICE/SECTION]
4	Division	DIV	[REDACTED]
5	System	SYS	[REDACTED]
6	Package	PKG	[ORDER ENTRY/RESULTS REPORTING]

Enter selection: **Set this parameter according to the individual preference of your site.**

----- Setting ORWPCE FORCE PCE ENTRY -----

FORCE GUI PCE ENTRY: ?

Do you wish to force entry of PCE data in the CPRS GUI?.

Select one of the following:

0	NO
1	YES

FORCE GUI PCE ENTRY: **1** YES

When data is needed and the user is the primary encounter provider, the ORWPCE FORCE PCE ENTRY parameter is checked to determine if the user needs to enter the missing encounter information before being allowed to sign the note. When this parameter is set to YES, users are asked to enter the missing data. When this parameter is set to NO, users are asked if they want to enter encounter information.

When data is needed and the user is the primary encounter provider, continued checks are made during the note-signing process to determine if there is still missing data. The user is continually prompted to enter the data, regardless of the ORWPCE FORCE PCE ENTRY setting.

If data is not needed or if the user is not the primary encounter provider, “Yes” and “No” prompts are displayed and the user determines what to enter.

Add CP User to the CPRS Tools Menu (ORWT TOOLS MENU)

You can use the ORWT TOOLS MENU to set up access to CP User from the CPRS Tools menu. You can set up the options for the site and then override them as appropriate at the division, service, and user levels. Here are some guidelines:

- Enter each item in the format, NAME=COMMAND.

NAME is the name that displays on the menu, such as CP User. If you want to provide keyboard access, you can also enter **&** in front of a letter, such as CP &User.

COMMAND is the directory path followed by the executable name.

Notes:

- You must surround a path that contains space characters, such as C:\Program Files\... with quotation marks. You can also include switches in the path. Here's an example:

```
CP User="C:\Program Files\Clinical Procedures\CP User.exe" /cprs  
/dfn=%DFN /s=%SRV /p=%PORT
```

- You can pass context-sensitive parameters, which are entered as placeholders, and then converted to the appropriate values at runtime. The placeholder parameter used with Clinical Procedures is:

%DFN Indicates the DFN of the currently selected patient in CPRS. This parameter passes the current patient to Clinical Procedures. You can also use %DFN as a placeholder in other CP applications.

%SRV Indicates the name of the server that CPRS is currently connected to. This parameter passes the current server name to Clinical Procedures. You can also use %SRV as a placeholder in other CP applications.

%PORT Indicates the listener port that CPRS is currently communicating through. This parameter passes the current listener port to Clinical Procedures. You can also use %PORT as a placeholder in other CP applications.

- Command line switches, such as nonsharedbroker, can be used. Refer to [Appendix A - CP Application Startup Options and Command Line Switches](#), p. 16-1 for more information.

Example: Create a tools menu option that contains CP User.

From the system prompt, do the following:

```

Select PARAMETER DEFINITION NAME: orwt TOOLS MENU      CPRS GUI Tools Menu ORWT TOOLS MENU may
be set for the following:
  1  User          USR      [choose from NEW PERSON]
  2  Location      LOC      [choose from HOSPITAL LOCATION]
  2.5 Service      SRV      [choose from SERVICE/SECTION]
  3  Division      DIV      [REDACTED]
  4  System        SYS      [REDACTED] Enter
selection: 1          User      NEW PERSON
Select NEW PERSON NAME: CPUSER, FOUR          CF

----- Setting ORWT TOOLS MENU for User: DELAWARE,JOHN -----
Select Sequence: 1
Are you adding 1 as a new Sequence? Yes// YES
Sequence: 1// 1
Name=Command: CP User="<directory name>\CP User.exe" /cprs /dfn=%DFN /s=%SRV /p=%PORT
Select Sequence:
    
```

Figure 10-1

When you select “CP User” from the CPRS Tools menu, CP User is displayed and the actual server, port, and global reference are substituted for the command line switches.

¹Step 3- Create Ad Hoc Health Summary Components for CP

There is a need for the sites to be able to group a specific procedure reports for easier search by the physician. Patch MD*1.0*21 distributed a routine called MDPSUL. If the entry point EN2^MDPSUL is run, a list of active devices is displayed. This routine generates the LIST OF HS COMPONENTS NEEDED report. The first column of the report shows the active bi-directional devices in the Instrument list of CP Manager. The Print Routine column shows the entry point in routine MDPSU that can be used to create a Health Summary Component. The last column is an Abbreviation code that Clinical Procedures recognize as an identifier for that device. The Print Routine and Abbreviation columns are fields that the site can use to create a Health Summary Component to consolidate reports of one device in a Health Summary Component. Please contact your IRM Programmer to run this routine.

```
>D EN2^MDPSUL
Select LIST Printer: HOME//   TELNET   Right Margin: 80//
Oct 06, 2009 8:48:17 am           Page 1

      LIST OF HS COMPONENTS  NEEDED

Name                               Print Routine   Abbreviation
-----
CCF                               CFF;MDPSU      M1
EnConcert                         CFF;MDPSU      M4
CTX (Bi-Directional)             CFF;MDPSU      M25
CTX Generic Echo                  CFF;MDPSU      M26
Muse EKG                          CFF;MDPSU      M27
Muse Exercise                     CFF;MDPSU      M33
Muse Holter                       CFF;MDPSU      M34
OLYMPUS EGD                      CFF;MDPSU      M35
```

Someone with the GMTS MANAGER option can create the Health Summary (HS) component for the instrument generated by the report mentioned above. A sample HS component creation is demonstrated in the screenshot below.

```
Select OPTION NAME: GMTS MANAGER   Health Summary Overall Menu

You have PENDING ALERTS

Select Health Summary Overall Menu Option: ?

  1   Health Summary Coordinator's Menu ...
  2   Health Summary Enhanced Menu ...
  3   Health Summary Menu ...
  4   Health Summary Maintenance Menu ...

Enter ?? for more options, ??? for brief descriptions, ?OPTION for help text.

You have PENDING ALERTS

Select Health Summary Overall Menu Option: 4 Health Summary Maintenance Menu

You have PENDING ALERTS

Select Health Summary Maintenance Menu Option: ?
```

¹ Patch MD*1.0*21 June 2010 – Added Step 3 Create Ad Hoc Health Summary Components for CP.

```

1      Disable/Enable Health Summary Component
2      Create/Modify Health Summary Components
3      Edit Ad Hoc Health Summary Type
4      Rebuild Ad Hoc Health Summary Type
5      Resequence a Health Summary Type
6      Create/Modify Health Summary Type
7      Edit Health Summary Site Parameters
8      Health Summary Objects Menu ...
9      CPRS Reports Tab 'Health Summary Types List' Menu ...
10     CPRS Health Summary Display/Edit Site Defaults ...

Enter ?? for more options, ??? for brief descriptions, ?OPTION for help text.

You have PENDING ALERTS

Select Health Summary Maintenance Menu Option: 2 Create/Modify Health Summary C
omponents
Select COMPONENT: EKG REPORT
NAME: EKG REPORT//
PRINT ROUTINE: CPF;MDPSU//
ABBREVIATION: M27//
DESCRIPTION:
Print EKG Report Only.

    Edit? NO//
TIME LIMITS APPLICABLE: yes//
MAXIMUM OCCURRENCES APPLICABLE: yes//
HOSPITAL LOCATION APPLICABLE:
ICD TEXT APPLICABLE:
PROVIDER NARRATIVE APPLICABLE:
LOCK:
DEFAULT HEADER NAME: EKG REPORT
Select SELECTION FILE:

ADD new Component to the AD HOC Health Summary? NO// YES

>>> EDITING the GMTS HS ADHOC OPTION Health Summary Type
SUPPRESS PRINT OF COMPONENTS WITHOUT DATA: yes//

Do you wish to review the Summary Type structure before continuing? NO//
Select COMPONENT: EKG REPORT//          M27
EKG REPORT is already a component of this summary.

    Select one of the following:

            E          Edit component parameters
            D          Delete component from summary

Select Action:

Please hold on while I resequence the summary order.....
.....

>>> Returning to Create/Modify Health Summary Component Option.

You have PENDING ALERTS
    Enter "VA to jump to VIEW ALERTS option

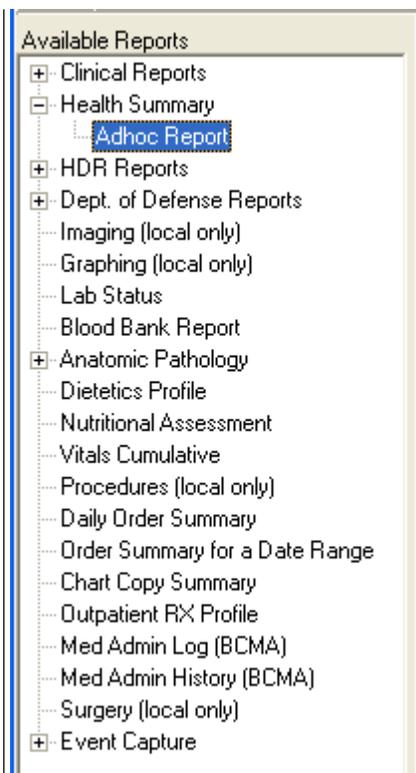
Select Health Summary Maintenance Menu Option:

```

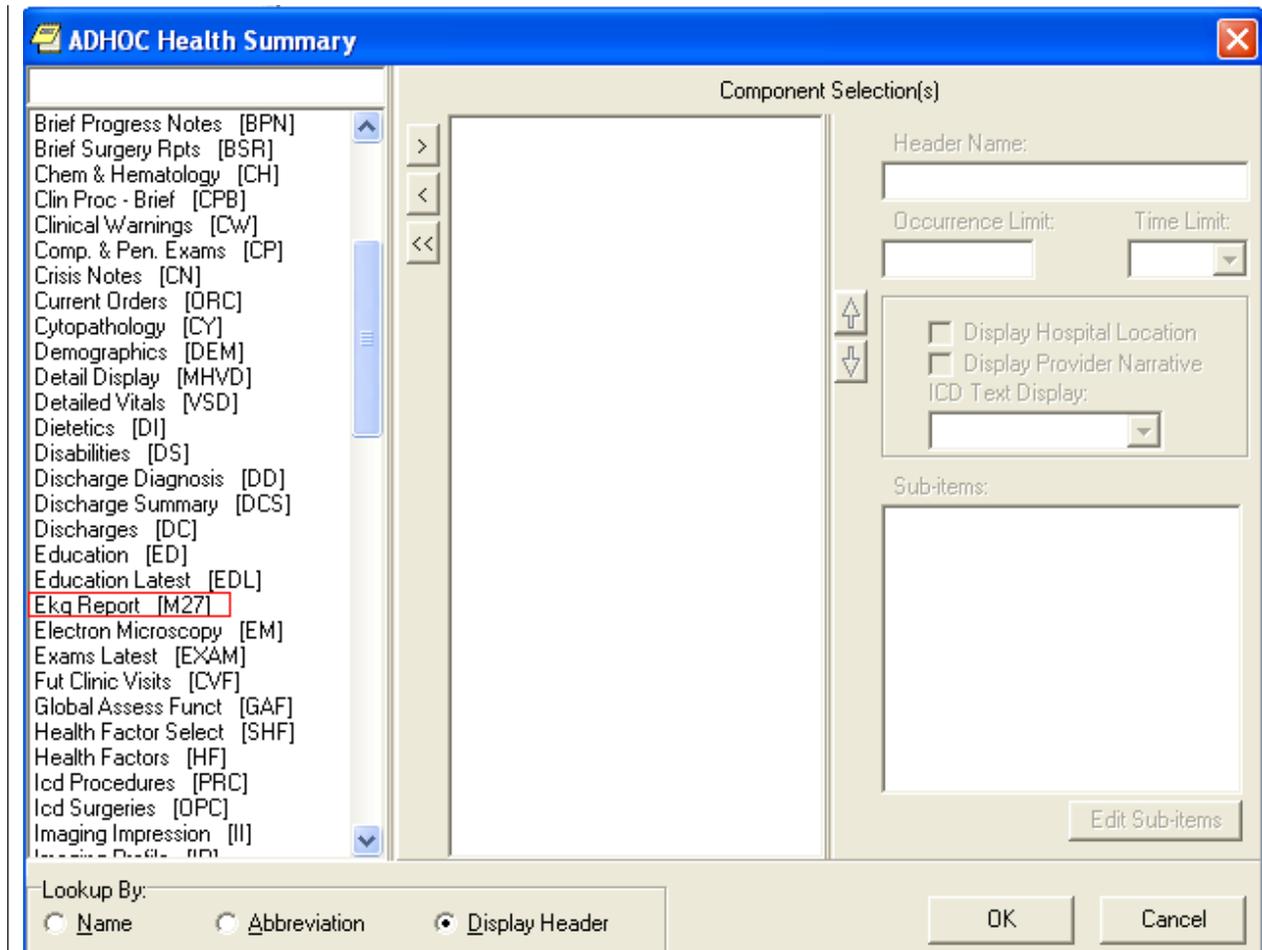
Once you have created the HS component, you should be able to use the component in the Ad Hoc Health Summary selection in the CPRS Reports tab.

Select the Reports tab and select Ad Hoc Report within the Health Summary tree view.

Setting Up CPRS for Clinical Procedures



Once you click the Ad Hoc Report, an Ad Hoc Health Summary window opens as demonstrated below:



Find the Health Summary component that you have created and select it. Enter the Occurrence Limit and Time Limit that you want. The Occurrence Limits field is the number of reports that you want displayed and the Time Limit is the date range to find the report such as 1Y (1 year). Once you click the “OK” button, you should generate only EKG reports found for that occurrence and time limit.

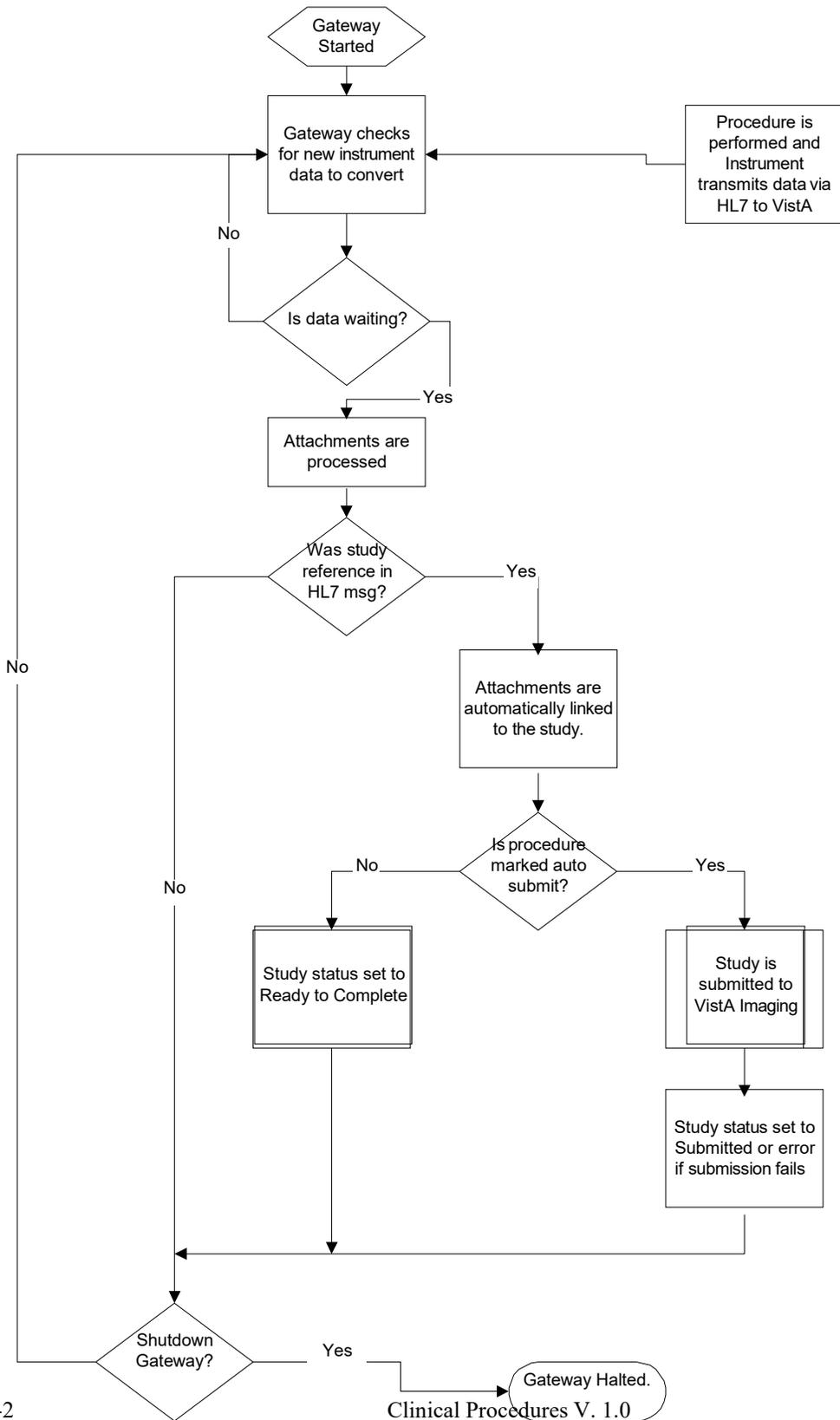
11. Working with CP Gateway

CP provides bi-directional capabilities for the HL7 interface. With this feature, the VistA system can send information about a patient procedure directly to the instrument, which eliminates duplicate entries of patient data into an instrument. CP Gateway sends the results to the VistA M environment and converts the data into a usable format for the CP and VistA Imaging applications.

Every night after midnight, CP Gateway purges data based on the value in the **Days to keep Instrument Data** field (See **CP Manager > System Parameters**). This purge only deletes the raw data that comes from the instrument. The data to be purged has already been matched to a study.

The following flowchart describes what the CP Gateway does.

CP Gateway



Starting the CP Gateway application is the same as starting any VistA Broker application, which requires a VistA application and the appropriate command line switches. Refer to [Appendix A - CP Application Startup Options and Command Line Switches](#) for more information. ¹The CP Gateway application can be run on a server or on a workstation. The application must be launched by a person with VistA Access and Verify codes. This person must be assigned the MD GUI MANAGER menu option to be able to access the CP Gateway. DO NOT run the CP Gateway on a workstation that is running VistA Imaging.

Note: Remember to re-start the CP Gateway, if the workstation is re-started for some reason such as upgrade and patches. This will keep the connection up for the device interface and CP.

Note 2: It is not necessary but if you want to configure a stand-alone server or workstation for the CP Gateway, use the VA Naming Conventions. Your domain will be VHAXXX where XXX is the site's 3-character assigned name (e.g., VHAISH is the domain name at Hines Field Office). You could use the following server name: VHA + 3-letter site name + CPG i.e., VHAISHCPG

After the application starts, three checks are performed to ensure that the proper environment exists.

- Verifies that the CP Gateway is a compatible version with the server installation.
- Verifies that the CP Gateway is the only one running in the selected environment (such as UCI and Volume set).
- Verifies that the CP Gateway has Read Write and Delete access to the directory stored in the MD IMAGING XFER DIRECTORY parameter.

If any of these checks fail, the processor shuts down. If the checks are acceptable, the application displays on the workstation as shown, Figure 11-1.

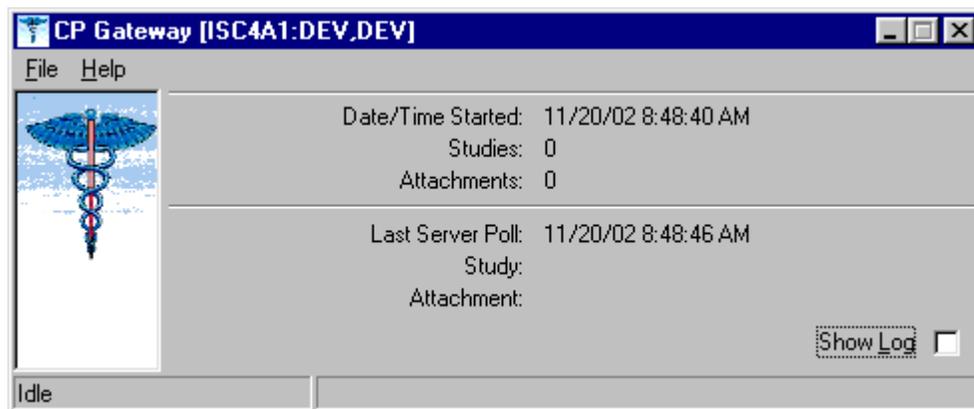


Figure 11-1

Click **Show Log** to view the application log. A session log is kept for the currently running session but is not saved to the workstation's hard drive for patient security reasons.

¹ Patch MD*1.0*14 March 2008 Added information about launching the CP Gateway.

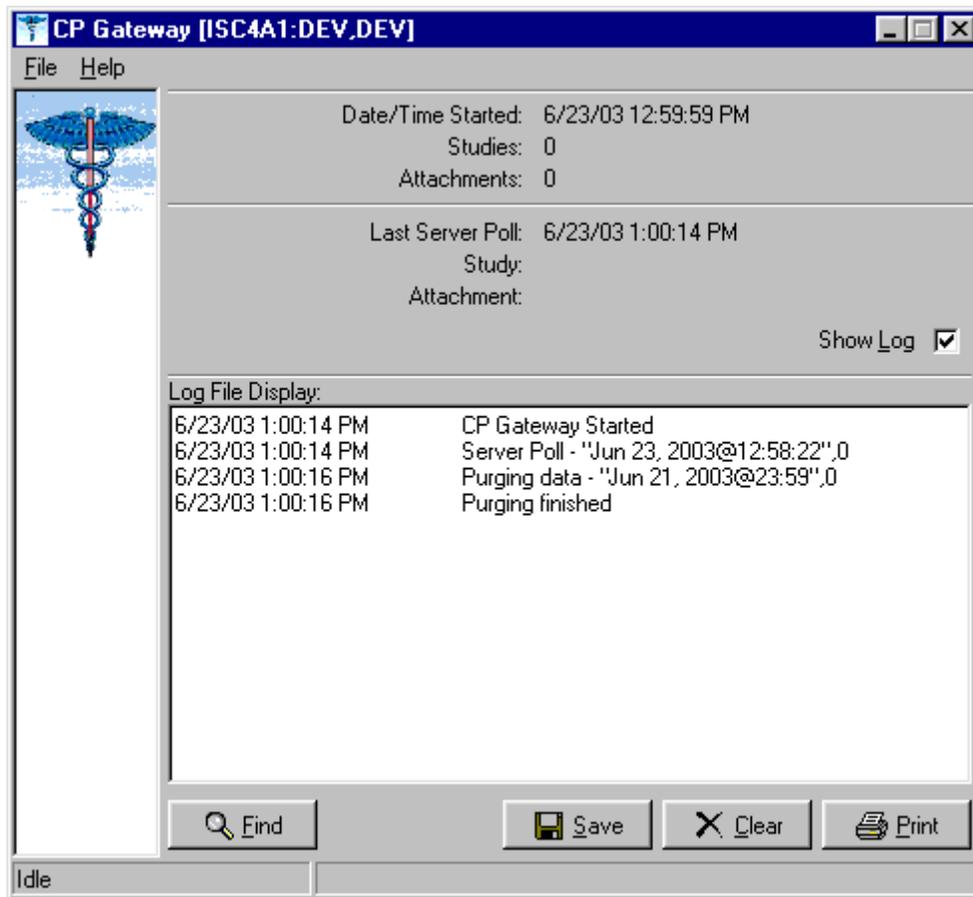


Figure 11-2

The log file tracks all the background operations and any problems that occur during the processing of attachments, Figure 11-2. In addition, the log file lists the date/time stamp of the background operation, a description of the background operation, and the number of studies to process at that time.

Log File Options

The following options are available while viewing the log file.

- Click **Find** to rapidly search the log file. A standard Windows find dialog is displayed and you can search the entire log file for a text value.
- Click **Save** if you want to save the entire contents of the log to an external file. The log file is saved in Rich Text Format (RTF) and can easily be opened in MS Word or other word processing applications.

- Click **Clear** to clear all entries in the current sessions log file. Be careful since you cannot recover past log entries if you have not previously saved them to a file.
- Click **Print** to select a printer and print the log. Be careful to check the size of the log file as it may be large if you have not cleared it recently.

You can display information about the server and you can also manage how the Gateway works.

- Choose **File > Status**. The server settings are displayed, Figure 11-3.

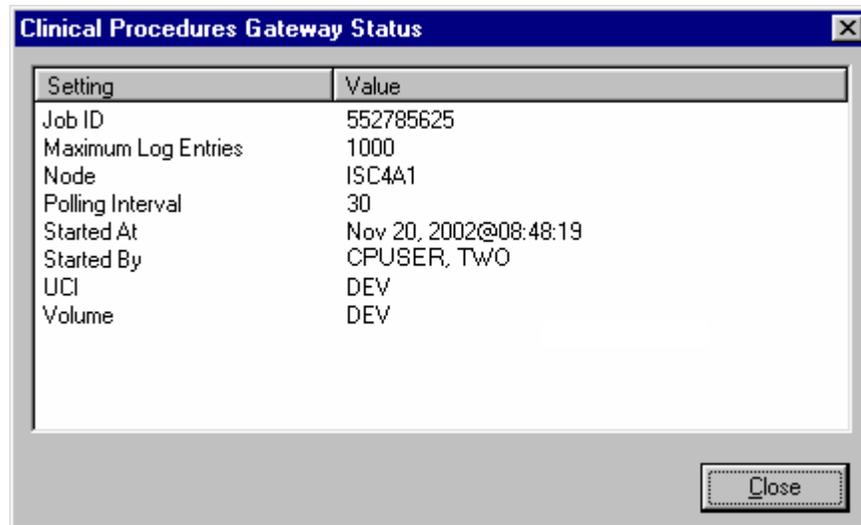


Figure 11-3

- Choose **File > Shutdown**. The server process is stopped and the application is terminated.
- Choose **File > Set Poll Interval**, Figure 11-4. The CP Gateway polls for new instrument data to transmit to VistA. You can adjust the number of seconds between polling operations. Enter a value from 10 to 300 seconds. The new value becomes effective after the next polling operation so it may take up to 5 minutes for the new value to be used.

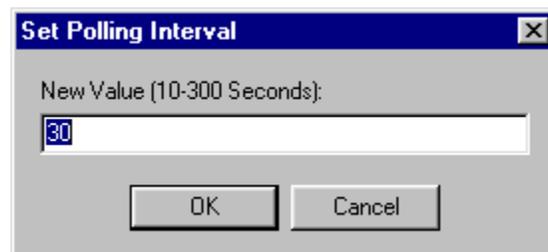


Figure 11-4

- Choose **File > Set Maximum Log Entries**. You can adjust the number of entries that are stored in the log file. Enter a value from 100 to 10000. After this value is reached, entries are deleted from the beginning of the log to keep the log file from growing too large. The new value becomes effective after the next polling operation so it may take up to 5 minutes for the new value to be used. When the CP Gateway is shut down, all entries are deleted from the log file.

12. Setting Up HL7 Parameters

¹This section describes how to set up the HL7 parameters including configuration instructions, file settings, and technical issues. The tasks in this chapter require a working knowledge of the VistA HL7 application.

Topics discussed in this chapter are:

- Configuration Instructions Information
 - IP Addresses and Ports
- Setting Up a New HL7 Single Listener for High-Volume Devices
 - Creating a Logical Link
 - Creating a Device Protocol Client
 - Activating the Logical Links
 - Adding a Device Client as a Server Subscriber
- Using Port 5000
 - Benefits of Using a Single Port Listener
 - Setting Up Port 5000
- File Settings
- Technical Issues

Configuration Instructions Information

You can follow the steps described in this section to configure the HL7 application.

MCAR INST and MCAR OUT are automatically created during the KIDS installation. MCAR INST is used for all devices that send results information from the device to VistA and CP. Since all devices can use the same link, you only need one entry in the HL Logical Link (870) file.

However, you need to establish an MCAR OUT entry for each bi-directional device that receives information from VistA and CP. Each entry needs its own IP and port number, which agree with the device configuration. (Use the MCAR OUT sample provided in the HL Logical Link file. Set up the individual links for each bi-directional device.) All outbound links are non-persistent.

Most devices are able to use a non-persistent connection to VistA. A **persistent** connection is a connection that is established by the medical device and is kept connected to VistA even after the device has transmitted its HL7 message. A **non-persistent** connection is a connection that is established by the medical device to VistA and is disconnected once the HL7 message has been sent. Devices can share the same HL Logical link to VistA, if they are non-persistent. If the device is persistent then it must have its own HL Logical Link to VistA (Example: its own inbound and outbound links.)

¹ Patch MD*1.0*14 March 2008 Chapter revised to provide clarity.
April 2004

IP Addresses and Ports

You need to set up IP addresses and ports for the medical devices at your facility.

An IP address consists of a string of four numbers each ranging in value from 0 to 255. Here is an example of an IP address: 10.23.55.201. When a new device is installed, be careful when you assign IP addresses to the medical devices. It's recommended that you set aside a block of IP addresses specifically for the medical devices. The range of numbers chosen is up to the facility, but make sure that there is a large enough range to allow for some growth. For example, IP addresses 10.23.55.201 through 10.23.55.225 could be blocked and used. In this way, the IRM staff can track down any possible problems that may be related to the medical device by looking at the IP address.

A port is the location on a medical device where you send and receive data. Some ports have predefined functions. For example, Port 80 is set up for the Web Server. Some vendors have predefined ports that they may want you to use. For example, Sensormedics recommends using Port 20000 for the VMAX. Others may only allow a limited range. Consult the device manual to determine which ports you can use.

A Startup Node defines the system on which you want the link to start.

Setting Up a New HL7 Single Listener for High-Volume Devices

Most medical devices send results to VistA using nonpersistent connections to the same port. Each device connects to the port just long enough to send results to VistA, then releases the port so that other devices may connect to it.

However, if you use a high-volume device (i.e., something that sends about 200 or more messages back and forth per day, such as MUSE or a hemodialysis device) that sends a lot of data all the time, we recommend that you give it its own port instead of sharing a port with other devices. This is because high-volume devices send so much data that they can tie up the port for a long time, preventing other devices (e.g., Olympus or Sensormedics) from using it.

Setting up a new HL7 listener involves four steps (which are described in more detail below):

1. Creating a Logical Link
2. Creating a Device Protocol Client
3. Activating the Logical Links
4. Adding a Device Client as a Server Subscriber

This document also contains information on Using Port 5000 what it is and when to use it).

Note: Although you can name your new logical links and device protocols anything you want, keep the names name spaced and descriptive since the names are similar and it can be easy to confuse them.

Creating a Logical Link

A logical link is an inbound or an outbound instrument data port from and to the medical device. It's a listener waiting for data to come across. The first logical link (MCAR INST) is already created by default. To create a new HL7 single listener logical link for your device, you need to create a new logical link or edit an existing one. Each bi-directional device that receives information from VistA and CP needs its own outbound link set up. All non-persistent devices can share the same inbound logical link, but persistent devices each need their own inbound logical links.

1. Decide which port to use. The facility, along with IRM, determines which port to use. This is the port used by the device to send data to the VistA listener. You can, for example, use port 1026 for Hemodialysis results and port 1027 for Sensormedics results. Do not use port 5000 for this type of setup. (See below for more information on port 5000.)
2. From the Systems Manager Menu, choose HL Main Menu (**HL**) > Interface Developer Options (**IN**) > Link Edit (**EL**).
3. At the Select HL Logical Link Note prompt, enter the **name of the new logical link** for your device. Name your new inbound logical link something like MCAR2 INST. The next one (if you use more than one high-volume device) can be called MCAR3 INST, etc. For an outbound logical link, the following naming convention is suggested: MCAR xxx, where xxx is the first three characters of the device or vendor name. (For example, an outbound link for an Olympus device could be named MCAR OLY.)
4. Type **yes** when asked if you are adding 'MCAR2 INST' as a new HL LOGICAL LINK. The HL7 LOGICAL LINK screen displays.

```

                                HL7 LOGICAL LINK
-----
                                NODE: MCAR2 INST

                                INSTITUTION:

MAILMAN DOMAIN:

                                AUTOSTART: Enabled

                                QUEUE SIZE: 100

                                LLP TYPE: TCP <RET>

                                DNS DOMAIN:

```

Note: When this screen first displays for a new logical link, only the NODE and QUEUE SIZE fields will already contain values. The NODE field will display the logical link name you just created, and the QUEUE SIZE field will default to 10.

5. Type **Enabled** in the Autostart field.
6. Change the QUEUE SIZE value to 100. (Optional)

7. Enter **TCP** in the LLP TYPE field, then press **[Enter]** to display the HL7 LOGICAL LINK screen (see following example).

```

                                HL7 LOGICAL LINK
-----
TCP LOWER LEVEL PARAMETERS
MCAR3 INST

TCP/IP SERVICE TYPE: SINGLE LISTENER
TCP/IP ADDRESS:
TCP/IP PORT: 1026
TCP/IP PORT (OPTIMIZED) :

ACK TIMEOUT: 60                      RE-TRANSMISION ATTEMPTS: 3
READ TIMEOUT:                       EXCEED RE-TRANSMIT ACTION: ignore
BLOCK SIZE:                          SAY HELO:

STARTUP NODE: DEV:ISC4A2              PERSISTENT: NO
RETENTION:                            UNI-DIRECTIONAL WAIT:
    
```

8. Set TCP/IP SERVICE TYPE to **SINGLE LISTENER**. If this link is an outbound link then the TCP/IP SERVICE TYPE is **CLIENT (SENDER)**.
9. In the **TCP/IP ADDRESS** field, if the link you are creating is an outbound link to a device, you will need to enter the TCP/IP address of that device. For the inbound link, no address is needed.
10. In the **TCP/IP PORT** field, enter the port number you decided to use (in step 1).
11. Optionally set ACK TIMEOUT to **60**.
12. Press **[Tab]** to optionally set RE-TRANSMISION ATTEMPTS to **3**.
13. Optionally set EXCEED RE-TRANSMIT ACTION to **ignore**.
14. Enter the appropriate **STARTUP NODE**.
15. Set the PERSISTENT field to **NO**.
16. **[Tab]** down to the COMMAND prompt, then select **Close**. You return to the HL7 LOGICAL LINK screen.
17. **[Tab]** down to the COMMAND prompt, then select **Save**.
18. At the COMMAND prompt, select **Exit**.
19. The new link is useless until you assign protocols to it. Proceed to the next section to create a client protocol.

Below is an example of an outbound link.

```

TCP LOWER LEVEL PARAMETERS
MCR OLY

TCP/IP SERVICE TYPE: CLIENT (SENDER)
TCP/IP ADDRESS: 10.3.17.141
TCP/IP PORT: 9027
TCP/IP PORT (OPTIMIZED):

ACK TIMEOUT: 60
READ TIMEOUT: 60
BLOCK SIZE:
STARTUP NODE: DEV:DEVISC4A1
RETENTION:

RE-TRANSMISSION ATTEMPTS: 3
EXCEED RE-TRANSMIT ACTION: ignore
SAY HELO:
DIRECT CONNECT OPEN TIMEOUT:
PERSISTENT: NO
UNI-DIRECTIONAL WAIT:

```

Creating a Device Protocol Client

You have to create a protocol for every inbound listener to Vista.

To create a protocol client from for your new logical link using a **copy**, follow these steps:

1. Look at the protocol in 101 or use developer tools. Copy MCAR DEVICE CLIENT to make a new device client. Name it something like MCAR2 DEVICE CLIENT.
2. Change the entry in the Logical Link field to match the new logical link. For example, if you just created a logical link named MCAR2 INST, change what's in the Logical Link field from MCAR INST to MCAR2 INST. All other fields should match what was originally in MCAR DEVICE CLIENT.
3. Proceed to the next section to make the new device protocol a subscriber to the device server.

To create a **new** protocol client for your new logical link, do the following:

1. From the Systems Manager Menu, choose HL Main Menu (**HL**) > Interface Developer Options (**IN**) > Protocol Edit (**EP**).
2. At the Select PROTOCOL NAME prompt, enter the name of the new device client for your device. Name your new device client something like MCAR2 Device Client or MCAR2 MUSE (depending on the device name).
3. Type **yes** (or simply type **y**) when asked if you are adding 'MCAR2 Device Client' as a new PROTOCOL.
4. Enter **Instrument Device Client** in the PROTOCOL ITEM TEXT field.
5. Enter an appropriate identifier in the PROTOCOL IDENTIFIER field. The HL7 INTERFACE SETUP screen displays.
6. [**Tab**] down to the TYPE field and enter **subscriber**, then press [**Enter**] to display PAGE 2 OF 2.

Activating the Logical Links

Next, the links need to be activated. (The steps below assume that the original logical link has never been activated. If MCAR INST is already active, skip to step 4.)

1. Choose HL Main Menu (**HL**) > Filer and Link Management Options (**FI**) > Start/Stop Links (**SL**).
2. Activate the first logical link: Select HL LOGICAL LINK NODE: **MCAR INST**
3. Select **B** for Background. (B is the default, so just press **[Enter]**).
4. Activate the next logical link: Select HL LOGICAL LINK NODE: (in this example it is **MCAR2 INST**)
5. Select **B** for Background. (B is the default, so just press **[Enter]**).
6. If you have more logical links to activate, repeat steps 4-5.
7. If you haven't done this already, use the CP Manager application to configure the device you are using. Refer to [Editing an Automated Instrument](#), p. 6-3.
8. Proceed to the next section to make the new device protocol a subscriber to the device server.

Adding a Device Client as a Server Subscriber

Next you have to make the newly-created protocols subscribers to MCAR DEVICE SERVER. Every client must be a subscriber to a server. That controls the outbound message to a medical device when you reply to it.

Go into MCAR DEVICE SERVER (under the protocol file or using the Interface Developer Option) and make sure that the new MCAR2 DEVICE CLIENT is a subscriber to it. Detailed steps follow:

1. At the Select Systems Manager Menu, select **HL** for the HL7 Main Menu.
2. At the Select HL7 Main Menu, select **IN** for Interface Developer Options.
3. At Select Interface Developer Options, select **EP** for Protocol Edit.
4. At the Select PROTOCOL NAME prompt, select **MCAR Device Server**. (If your site uses a different server name, select the appropriate name. You can display a list of available options, if necessary.)
5. Press **[Enter]** at the TYPE prompt to go to PAGE 2 OF 2: the HL7 EVENT DRIVER screen. (Example follows.)

3. You don't need to set up an additional MCAR INST (logical link) because you're using an existing logical link which is VAXXX, where xxx is an abbreviation for the hospital (e.g., VAHIN for Hines).
4. Make it an MCAR DEVICE server subscriber.

File Settings

The parameter settings for the HL7 Application Parameter file, HL Logical Link file, and the Protocol file are automatically set during the CP installation. They are listed here for reference. Fields that have bolded field names and bolded field entries must be set exactly as they appear in these examples.

- **HL7 Application Parameter (#771) file**

This file contains a list of VistA applications that are capable of sending and receiving HL7 transmissions.

```
NAME: MCAR-INST                ACTIVE/INACTIVE: ACTIVE
  FACILITY NAME: VISTA         MAIL GROUP: POSTMASTER
  COUNTRY CODE: US            HL7 ENCODING CHARACTERS: ^~\&
  HL7 FIELD SEPARATOR: |
```

```
NAME: INST-MCAR                ACTIVE/INACTIVE: ACTIVE
  COUNTRY CODE: US            HL7 ENCODING CHARACTERS: ^~\&
  HL7 FIELD SEPARATOR: |
```

- **HL Logical Link (#870) file**

This file stores parameters that govern the behavior of the Logical Links and also stores information that drives the SYSTEMS LINK MONITOR display option.

```
NODE: MCAR INST                LLP TYPE: TCP
  QUEUE SIZE: 100              RE-TRANSMISSION ATTEMPTS: 3
  ACK TIMEOUT: 60              EXCEED RE-TRANSMIT ACTION: ignore
  TCP/IP PORT: 1026            TCP/IP SERVICE TYPE: SINGLE LISTENER
  PERSISTENT: NO
```

MCAR OUT provides an example of field entries for bi-directional instruments for outbound links to medical devices. The fields that have bolded field names and bolded field entries must be set exactly as they appear in this example. The other bolded fields must be edited to match your device specific requirements. For example, Device Type must be Non-Persistent Client. Non-bolded fields may not have a value depending on the state of the system.

```
NODE: MCAR OUT                LLP TYPE: TCP
  DEVICE TYPE: Non-Persistent Client STATE: Shutdown
  AUTOSTART: Enabled           TIME STOPPED: JAN 16, 2003@14:30:15
  SHUTDOWN LLP ?: YES         EXCEED RE-TRANSMIT ACTION: ignore
  RE-TRANSMISSION ATTEMPTS: 3  TCP/IP PORT: 1028
```


SENDING FACILITY REQUIRED?: NO
SECURITY REQUIRED?: NO

RECEIVING FACILITY REQUIRED?: NO
ROUTING LOGIC: Q

NAME: MCAR ORM SERVER

ITEM TEXT: Clinical Procedures ORM Protocol Server

TYPE: event driver

CREATOR: CPUSER, SIX

TIMESTAMP: 59276,54156

SENDING APPLICATION: MCAR-INST

TRANSACTION MESSAGE TYPE: ORM

EVENT TYPE: O01

VERSION ID: 2.3

SUBSCRIBERS: MCAR ORM CLIENT

***Note:** Check vendor documentation for instructions on verifying the Version ID.

Technical Issues

For all sites:

To avoid error messages because of a missing or invalid 'Event Protocol', 'Invalid Processing Code', or 'Invalid Application Code', make sure that all settings (except TCP/IP PORT and TCP/IP ADDRESS, in the HL Logical Link (#870) file, which are site specific) are the same as the file settings listed previously in this chapter.

Be sure that the VERSION ID parameters in the Protocol (#101) file are set to the same HL7 Version that is being sent by the vendor instrument. The ITEM and SUBSCRIBERS fields in the Device Server entry in the Protocol (#101) file MUST be the same as the Device Client name.

13. Configuring the Automated Instrument Share Folder

CP uses VistA Imaging as the main storage facility for the images and documents that come from a medical device. After one or more medical devices have been installed at the facility, you need to complete the setup. The vendor can provide you with the directory that is used to store the images and documents. You need to make that directory viewable to the VistA Imaging background processor, which will allow VistA Imaging to retrieve the document and store it on the VistA jukebox.

Here is a list of information you need to ensure that the share folder is set up correctly:

- Directory name that holds the documents and images on the medical device. Be sure to get the directory name from the vendor when the device is installed.
- VistA Imaging User (IU) and VistA Imaging Administrator (IA) accounts that are used when starting up the VistA Imaging background processor. You can get these names from the VistA Imaging coordinator at your facility.
- The medical device and the Imaging background processor *must* be on the same Windows domain.
- The medical device must have the same TCP/IP subnet mask as the Imaging background processor.
- You need administration privileges to complete the setup.
- You need to make the directory viewable on the medical device that has the documents and images.
- The network path to the results folder cannot contain symbols, such as dollar signs (\$).

Example: Setting up an automated instrument share folder:

This example describes how to share a Windows 2000 directory for the Widget EKG automated instrument where the medical device (Widget EKG) and the Imaging background processor are on the same domain VHAExample and subnet 255.255.240.0.

The directory that has the documents and images is C:\widget\doc. The VistA Imaging user is VHAISHIU and has an administrator logon to Windows.

1. Using Windows Explorer, go to the parent directory of the folder that contains the folder to be shared (doc folder) (Figure 13-1).

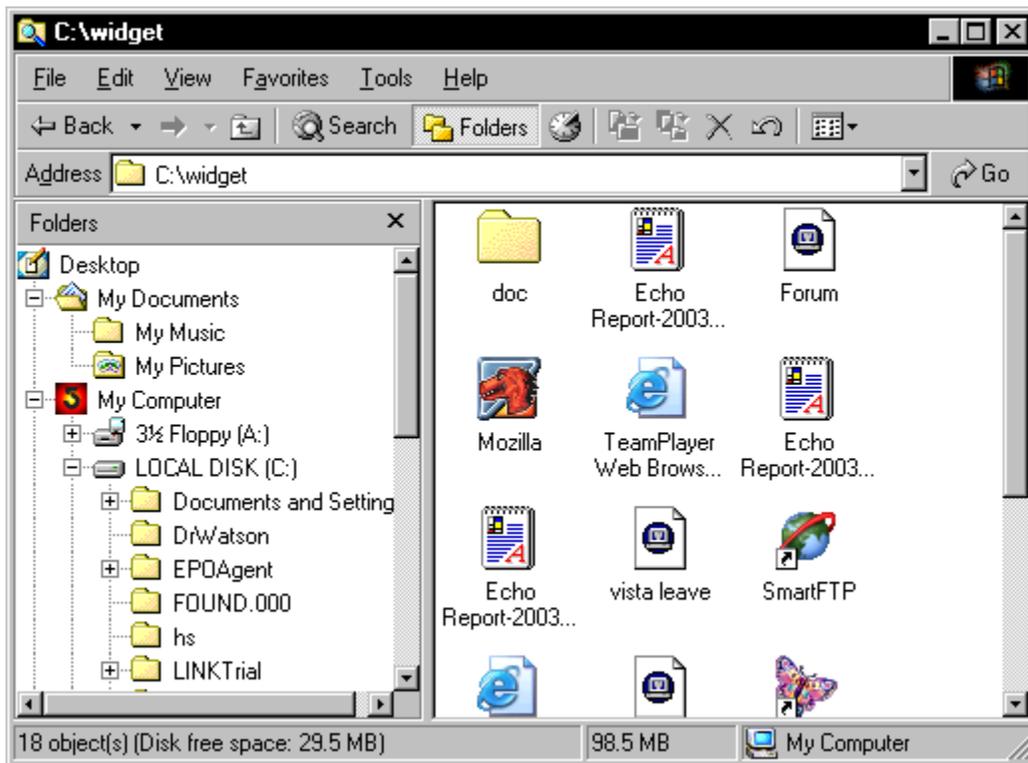


Figure 13-1

2. Right-click the **doc** folder. Select **Sharing** from the drop-down menu. The Sharing tab on the doc properties dialog box is displayed, Figure 13-2.

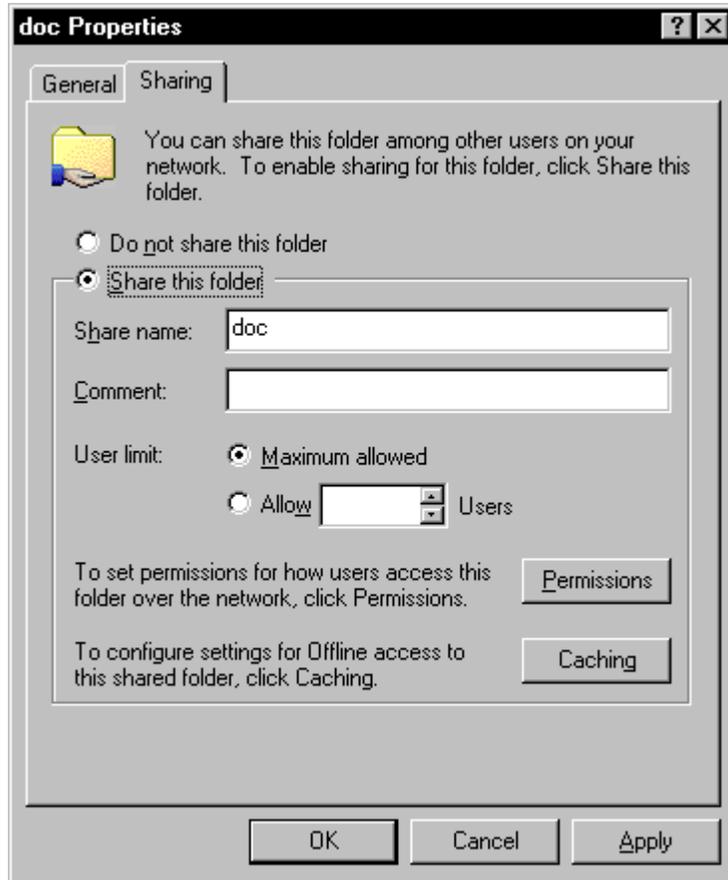


Figure 13-2

3. Click **Share this folder**.
4. Click **Permissions**.

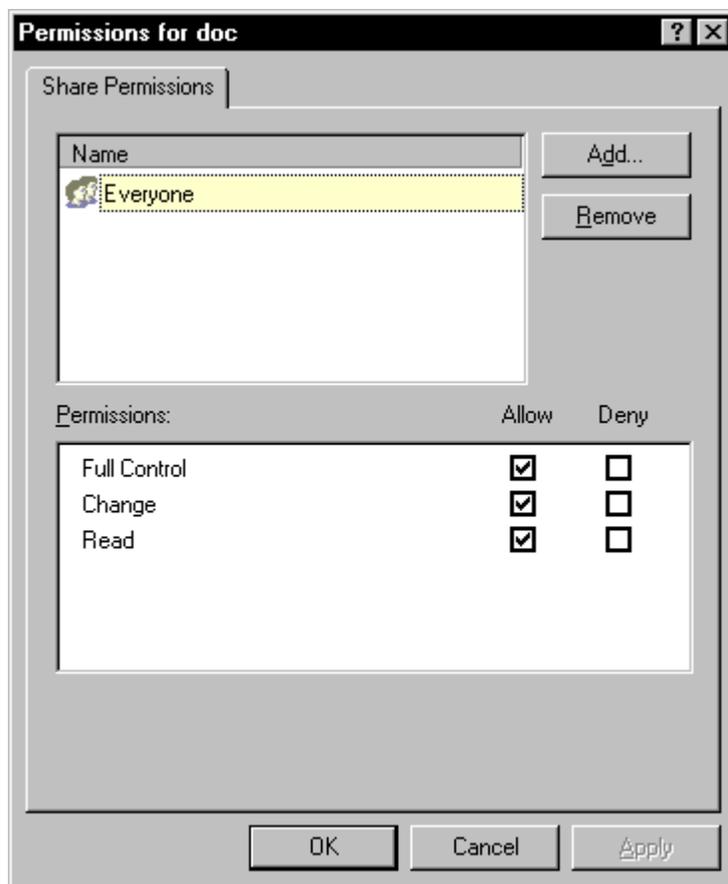


Figure 13-3

5. Select **Everyone**, and then click **Remove**. (Figure 13-3).
6. Click **Add**. The Select Users, Computers, or Groups window is displayed.

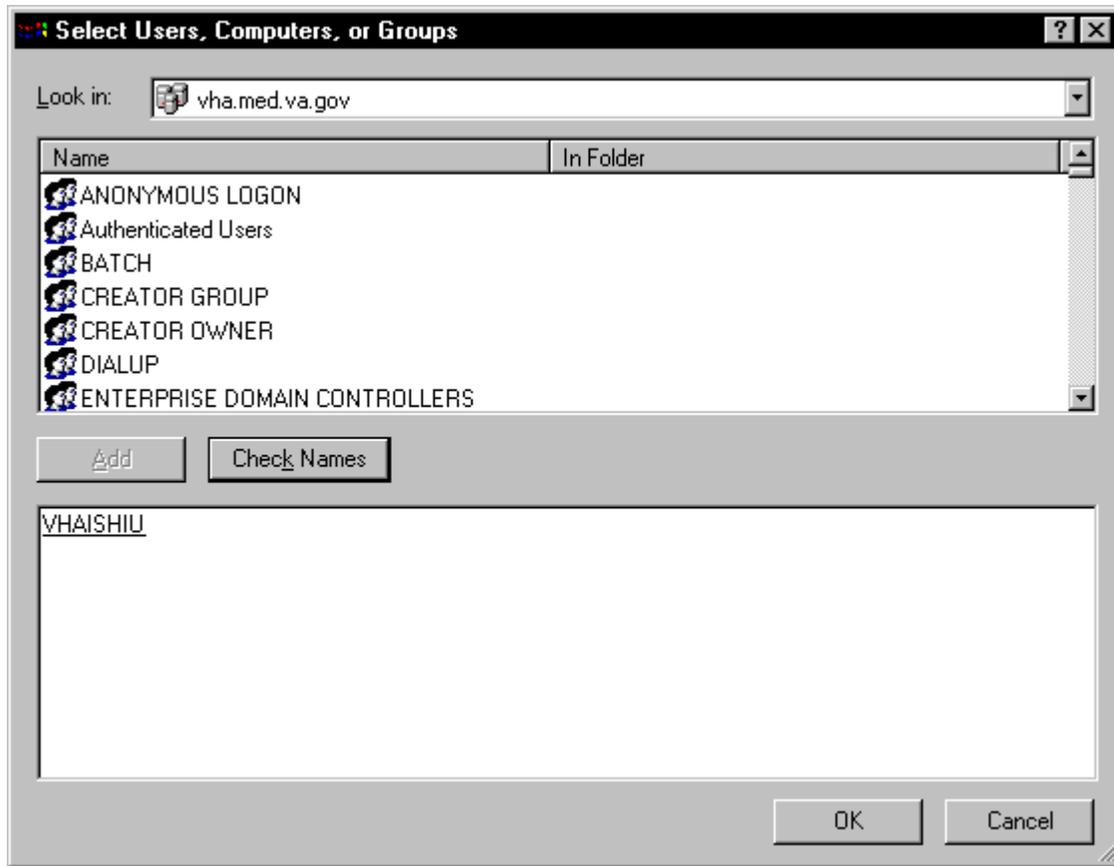


Figure 13-4

7. Enter the name of the VistA Imaging (VHAISHIU) User (IU) into the bottom window and click **Check Names**. A line is displayed under the name if it is valid. Click **OK** to add the user (Figure 13-4). The Select Users, Computers, or Groups window closes and VHAISHIU is displayed in the Permissions dialog box.

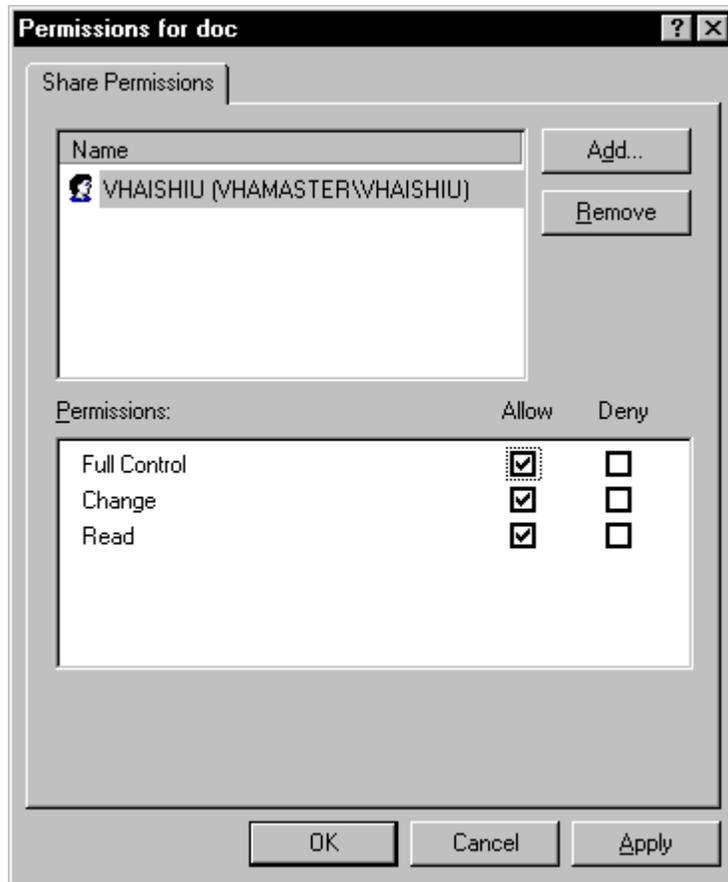


Figure 13-5

8. Make sure the check boxes are selected in the “Allow” column for “Full Control”, “Change” and “Read” (Figure 13-5).
9. Click **Apply** and then click **OK**. A hand displays under the file, which means that the file is now accessible to the VistA Imaging user.
10. To test that the shared folder is set up correctly, have the VistA Imaging coordinator logon as VHAISHIU on a different PC. Check that the shared folder is viewable.

14. Troubleshooting

Here are frequently encountered errors and resolutions that can occur while running Clinical Procedures. To resolve most of these errors, you need access to CP Manager and CP User.

1. You tried to launch a CP application and received the following error:



Figure 14-1

- a) Highlight the CP application icon on your desktop. (When CP is installed, shortcuts for the applications are created on the desktop.)
- b) Right-click, and then click **Properties**.
- c) Enter the command line switch “/nonsharedbroker” in the **Target** field.
- d) Press **OK**.

You can also add the “/nonsharedbroker” switch to the applications in **Start > Programs > Clinical Procedures**.

2. If you receive the following error:

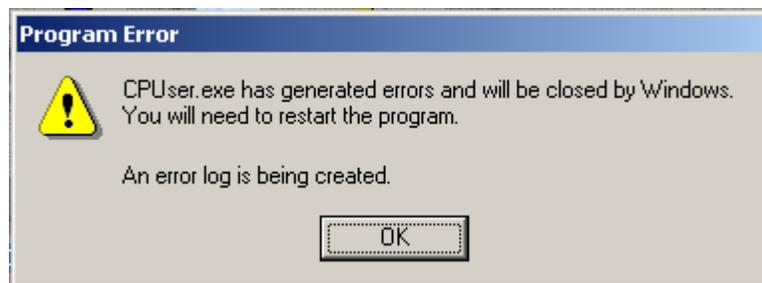


Figure 14-2

You need the MD GUI USER option to access CP User and the MD GUI MANAGER option to access CP Manager. Call IRM.

3. During a CP Study Check-In, a procedure request was ordered but is not listed.

- a) The GRMC procedure has not been linked to a CP procedure. You need to cancel the procedure request, and then use the following **Procedure Setup** option to link the GMRC procedure to the CP procedure.

```
Select OPTION NAME: GMRC MGR          Consult Management

Select Consult Management Option:  PR   Setup procedures
Select Procedure: CP EKG 12 LEAD STAT
NAME: CP EKG 12 LEAD STAT// <RET>
INACTIVE: NO// <RET>
Select SYNONYM: EKG// <RET>
INTERNAL NAME: <RET>
Select RELATED SERVICES: CP CARDIOLOGY// <RET>
TYPE OF PROCEDURE: ECG// <RET>
CLINICAL PROCEDURE: EKG, ROUTINE (12 LEADS)// <RET>
```

If you entered “?” in the Clinical Procedure field and you do not find a procedure that you want, use CP Manager to define and activate the CP procedures.

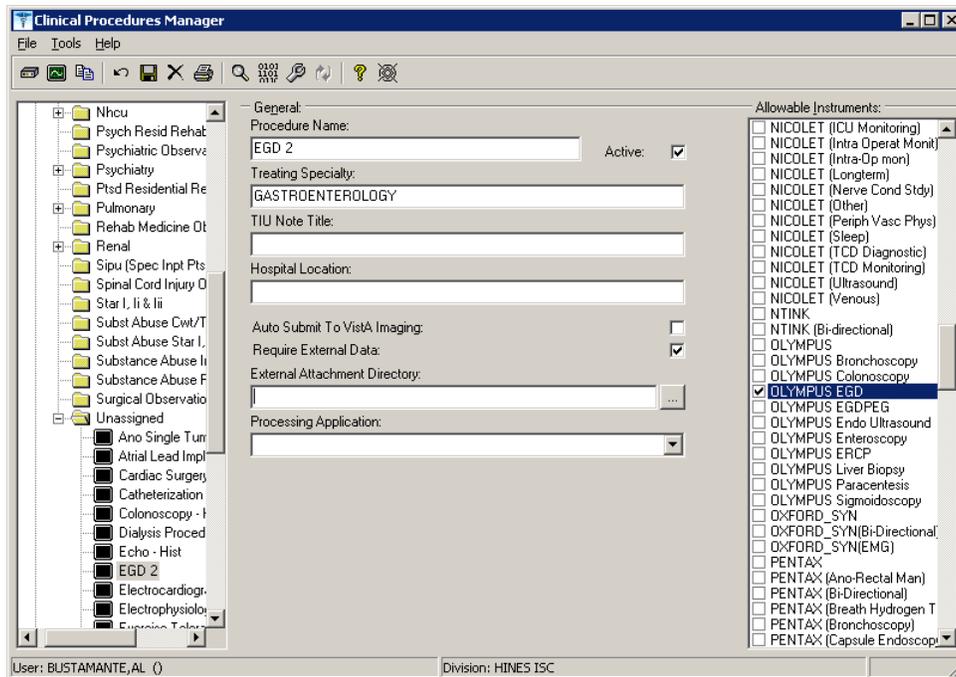
- b) Open **CP Manager**.
- c) Enter the name of the CP Procedure in the **Procedure Name** field. See [Setting Up Clinical Procedures](#), p. 6-1.
- d) Re-order the consult procedure.

4. **Allowable Instruments** are associated with the CP procedure but you cannot see the instruments during **Study Check-In**.

- a) Open **CP Manager**.
- b) Expand the Procedures folder, and then select the procedure.
- c) In the **Allowable Instruments** list, select the check box for the specific instrument.

5. After a study is checked-in, you can't find the study entry in **CP User**.

- a) Open **CP Manager**.
- d) Expand the Procedures folder, and then select the procedure.
- b) Check that a treating specialty has been assigned.



1Figure 14-3

6. An error status is displayed for the study and the **Update Study Status** selection is unavailable. You must have the MD GUI MANAGER key, and then you can go to **File > Update Study Status** to review the problem.

The message in the following figure indicates that a **Notification Mailgroup** has not been assigned or the **Medical Device** is not **Active**.

¹ Patch MD*1.0*6 May 2008 Added Processing Application field to image.

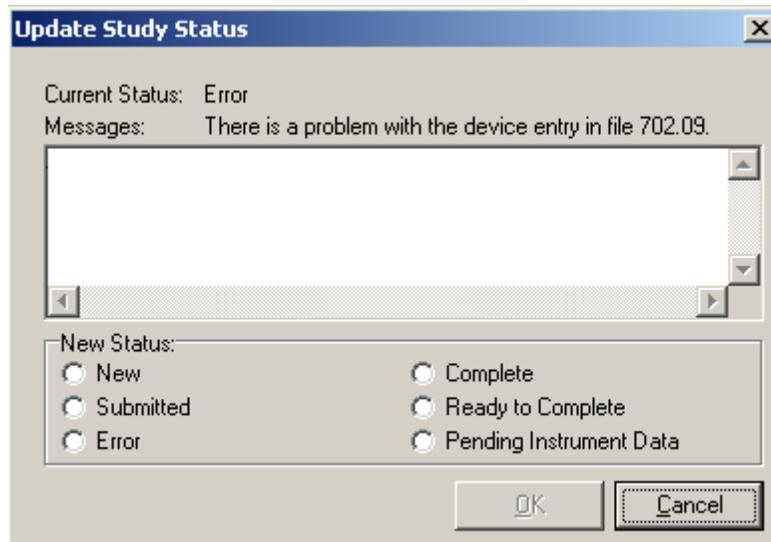


Figure 14-4

- a) Open **CP Manager**.
- b) Select the instrument.
- c) Check that the **Notification Mail Group** has an entry and that the **Active** checkbox is selected.
- d) Open **CP User**. Choose **File > Update Study Status**.
- e) If the device is bi-directional, delete the study that was checked in and check-in a new study with the same procedure request to get the HL7 message transmitted to the medical device. If the device is uni-directional, check the **Ready to Complete** status, and click **OK**.

7. If a study remains in **Pending Instrument Data** status and it is a bi-directional medical device, check to see if **Auto Submit To VistA Imaging** field is selected. .

- a) Open **CP Manager**.
- b) Expand the Procedures folder, and then select the procedure
- c) Check that **Auto Submit to VistA Imaging** is selected.

For the current study, you still need to manually submit the result. For future studies, the result will be automatically submitted.

8. The following two errors indicate that a TIU document Title has not been assigned to the CP procedure. The first error message is from CP during image submission if a TIU document has not been assigned to the CP Definition.

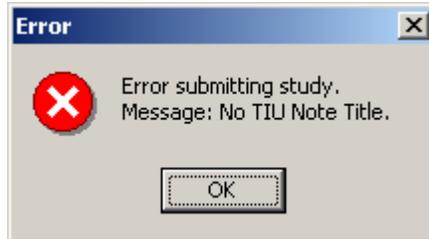


Figure 14-5

This second error screen is the Update Study Status screen from CP User. The first message is a CP warning. The second message is a warning from TIU that there is no TIU document.

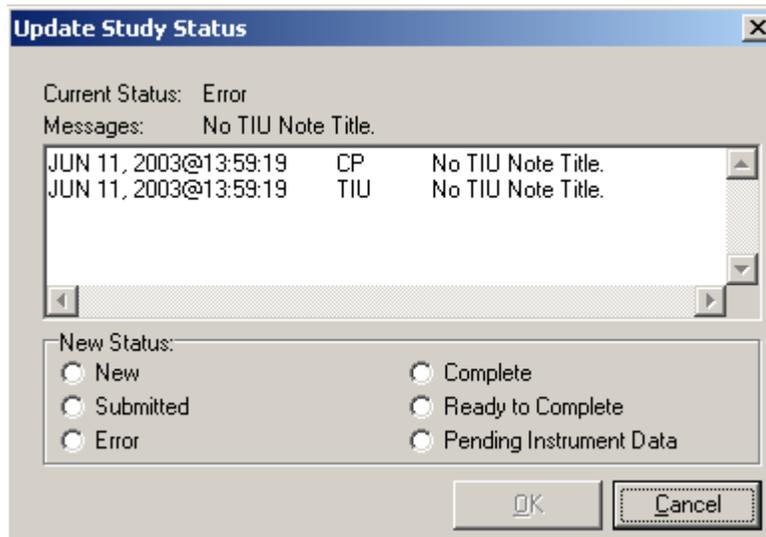


Figure 14-6

- a) Open **CP Manager**
- b) Select the procedure, and check that a **TIU Note Title** is assigned.
- c) Open **CP User** and Update the Study Status to **Ready to Complete**.
- d) Open the study and manually submit the results. By manually submitting the result, you prevent any re-occurrences of the error.

9. These errors indicate that a Hospital Location has not been defined for the CP procedure.

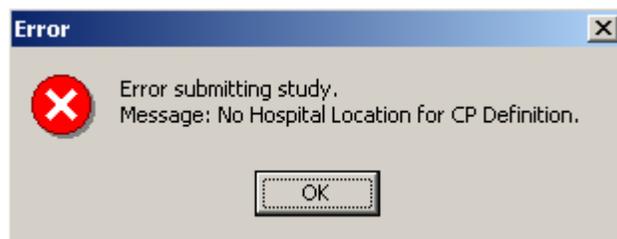


Figure 14-7

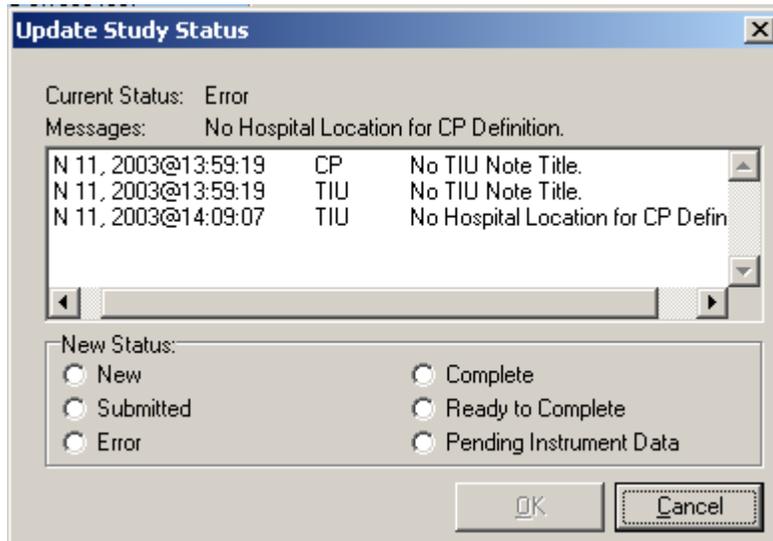


Figure 14-8

- a) Open **CP Manager** and check that the Hospital Location has been defined.
- b) Open **CP User** and Update the Study Status to **Ready to Complete**.
- c) Open the study and submit it manually.

10. If the **Complete/Update Result** option in **CPRS > Action > Consults Results** is unavailable, you need to be updated as the Interpreter. Use the **Service User Management > SERVICE INDIVIDUAL TO NOTIFY** option to assign the Interpreter role.

Select Consult Management Option: **SU** Service User Management

Select Service/Specialty: GASTROENTEROLOGY

Select UPDATE USERS W/O NOTIFICATIONS: CPUSER, SEVEN

//

Select UPDATE USERS W/O NOTIFICATIONS:

Select ADMINISTRATIVE UPDATE USER: CPUSER, EIGHT

//

Select ADMINISTRATIVE UPDATE USER:

SERVICE INDIVIDUAL TO NOTIFY: **CPUSER, NINE** CD 123 IRM FIELD

OFFICE IRM FIELD OFFICE

PROGRAMMER

Select SERVICE TEAM TO NOTIFY: consultteam//

Select NOTIFICATION BY PT LOCATION:

Select Service/Specialty:

11. If you get the following error message:

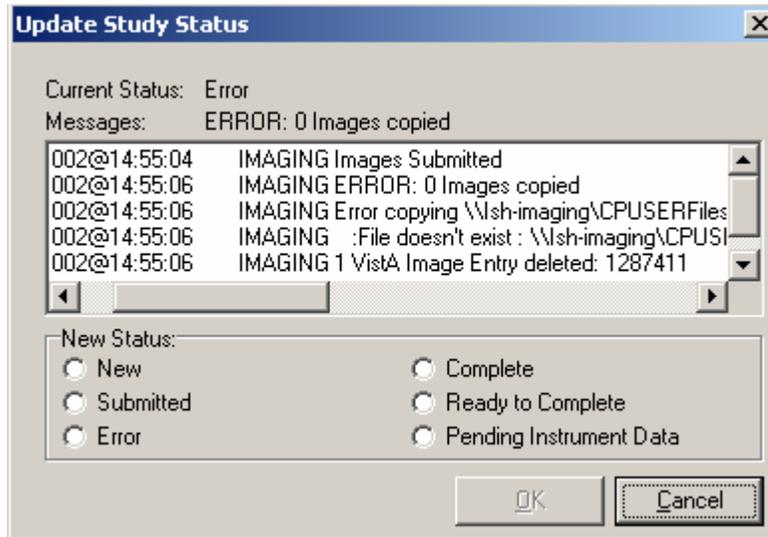


Figure 14-9

Make sure that the Imaging Background Processor can access the Network Share, where the result resides.

- a) Open **CP Manager**.
- b) Click **Clinical Procedures**.
- c) Click **System Parameters**.
- d) Check the path of the **Imaging Network Share**. (The Imaging Network Share must be a shared directory that can be accessed by the Imaging Background Processor and CP Gateway.)

12. If a study remains in “Submitted” status, check the Imaging Background Processor log for errors and make sure that the “Import” checkbox is checked for the Import BP parameter.

From the Background Processor, choose **Edit > BP Workstation Parameters**. (You may need to find someone who is responsible for the Imaging Background Processor application.)

13. If the Interpreter does not receive an alert that the procedure is ready for interpretation, check if the **CONSULT/PROC INTERPRETATION** notification is enabled and if the user has the Interpreter role.

- a) You must enable the **CONSULT/PROC INTERPRETATION** notification if you want to receive the “Ready for interpretation” alert in CPRS. You can enable the alert for one user, several users, or for the entire service. Use the Notification Management Menu.

- b) To assign the interpreter role, use the Consult Management menu. If user wants to receive alerts, do not enter them into the Update Users W/O Notifications field. This field is for users who want the role of interpreter but do not want to receive alerts. Refer to [Setting Up Consult Services](#), p. 9-1.

Select Consult Management Option: **SU** Service User Management

Select Service/Specialty: GASTROENTEROLOGY

Select UPDATE USERS W/O NOTIFICATIONS: CPUSER, SEVEN

//

Select UPDATE USERS W/O NOTIFICATIONS:

Select ADMINISTRATIVE UPDATE USER: CPUSER, EIGHT

//

Select ADMINISTRATIVE UPDATE USER:

SERVICE INDIVIDUAL TO NOTIFY: **CPUSER, NINE** CD 123 IRM FIELD

OFFICE IRM FIELD OFFICE

PROGRAMMER

Select SERVICE TEAM TO NOTIFY: consultteam//

Select NOTIFICATION BY PT LOCATION:

14. If you receive the following error while trying to interpret a procedure:

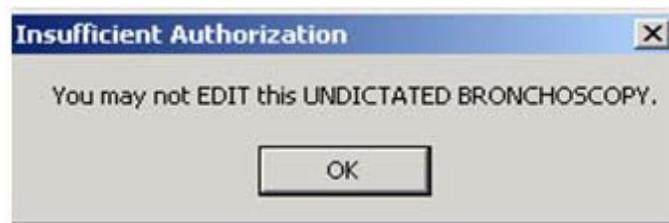


Figure 14-10

This message can occur if business rules have not been set up or if insufficient business rules have been set up for this document title.

To add a business rule:

- a) Go into the **User Class Management Menu**.
- b) Select **Manage Business Rules**.
- c) Enter specific words at the appropriate prompts (Status, Action, User Class). These words are combined to make a business rule.

15. Glossary

Access Code A unique sequence of characters known by and assigned only to the user, the system manager and/or designated alternate(s). The access code (in conjunction with the verify code) is used by the computer to identify authorized users.

Action A functional process that a clinician uses in a computer program. For example, “Edit” and “Search” are actions. Protocol is another name for Action.

ADP Coordinator/ADPAC/Application Coordinator Automated Data Processing Application Coordinator. The person responsible for implementing a set of computer programs (application package) developed to support a specific functional area such as clinical procedures, PIMS, etc.

Application A system of computer programs and files that have been specifically developed to meet the requirements of a user or group of users.

Archive The process of moving data to some other storage medium, usually a magnetic tape, and deleting the information from active storage in order to free-up disk space on the system.

ASU Authorization/Subscription Utility, an application that allows sites to associate users with user classes, allowing them to specify the level of authorization needed to sign or order specific document types and orderables. ASU is distributed with TIU in this version.

Attachments Attachments are files or images stored on a network share that can be linked to the CP study. CP is able to accept data/final result report files from automated instruments. The file types that can be used as attachments are the following:

.txt	Text files
.rtf	Rich text files
.jpg	JPEG Images
.jpeg	JPEG Images
.bmp	Bitmap Images
.tiff	TIFF Graphics (group 3 and group 4 compressed and uncompressed types)
.pdf	Portable Document Format
.html	Hypertext Markup Language

.DOC (Microsoft Word files) are not supported. Be sure to convert .doc files to .rtf or to .pdf format.

Automatic Version Updates Updating an account with new software versions without user intervention.

Background Processing Simultaneous running of a "job" on a computer while working on another job. Examples would be printing of a document while working on another, or the software might do automatic saves while you are working on something else.

Backup Procedures The provisions made for the recovery of data files and program libraries and for restart or replacement of ADP equipment after the occurrence of a system failure.

Boilerplate Text A pre-defined TIU template that can be filled in for titles to speed up the entry process. TIU exports several titles with boilerplate text, which can be modified to meet specific needs; sites can also create their own.

Browse Lookup the file folder for a file that you would like to select and attach to the study. Such as clicking the "...” button to start a lookup.

Bulletin A canned message that is automatically sent by mail to a user when something happens to the database.

Business Rule Part of ASU, Business Rules authorize specific users or groups of users to perform specified actions on documents in particular statuses (e.g., an unsigned CP note may be edited by a provider who is also the expected signer of the note).

Class Part of Document Definitions, Classes group documents. For example, "CLINICAL PROCEDURES" is a class with many kinds of Clinical Procedures notes under it. Classes may be subdivided into other Classes or Document Classes. Besides grouping documents, Classes also store behavior which is then inherited by lower level entries.

Consult Referral of a patient by the primary care physician to another hospital service/ specialty, to obtain a medical opinion based on patient evaluation and completion of any procedures, modalities, or treatments the consulting specialist deems necessary to render a medical opinion.

Contingency Plan A plan that assigns responsibility and defines procedures for use of the backup/restart/recovery and emergency preparedness procedures selected for the computer system based on risk analysis for that system.

CP Clinical Procedures.

CP Study A CP study is a process created to link the procedure result from the medical device or/and to link the attachments browsed from a network share to the procedure order.

CPRS Computerized Patient Record System. A comprehensive VistA program, which allows clinicians and others to enter and view orders, Progress Notes and Discharge Summaries (through a link with TIU), Problem List, view results, and reports (including health summaries).

Device A hardware input/output component of a computer system, such as CRT, printer.

Document Class Document Classes are categories that group documents (Titles) with similar characteristics together. For example, Cardiology notes might be a Document Class, with Echo notes, ECG notes, etc. as Titles under it. Or maybe the Document Class would be Endoscopy Notes, with Colonoscopy notes, etc. under that Document Class.

Document Definition Document Definition is a subset of TIU that provides the building blocks for TIU, by organizing the elements of documents into a hierarchy structure. This structure allows documents (Titles) to inherit characteristics (such as signature requirements and print characteristics) of the higher levels, Class and Document Class. It also allows the creation and use of boilerplate text and embedded objects.

Edit Used to change/modify data typically stored in a file.

Field A data element in a file.

File The M construct in which data is stored for retrieval at a later time. A computer record of related information.

File Manager or FileMan Within this manual, FileManager or FileMan is a reference to VA FileMan. FileMan is a set of M routines used to enter, edit, print, and sort/search related data in a file, a database.

File Server A machine where shared software is stored.

Gateway The software that performs background processing for Clinical Procedures.

GUI Graphical User Interface – a Windows interface that uses pull-down menus, icons, pointer devices, and other metaphor-type elements that make a computer program, easier to use and that allows multi-processing (more than one window or process available at once).

Interpreter Interpreter is a user role exported with USR*1*19 to support the Clinical Procedures Class. The role of the Interpreter is to interpret the findings or results of a clinical procedure. Users who are authorized to interpret the results of a clinical procedure are sent a notification when an instrument report and/or images for a CP request are available for interpretation. Business rules are used to determine what actions an interpreter can perform on a document of a specified class, but the interpreter themselves are defined by the Consults application. These individuals are ‘clinical update users’ for a given consult service.

IRMS Information Resource Management Service.

Kernel A set of software utilities. These utilities provide data processing support for the application packages developed within the VA. They are also tools used in configuring the local computer site to meet the particular needs of the hospital. The components of this operating system include: MenuMan, TaskMan, Device Handler, Log-on/Security, and other specialized routines.

M Formerly known as MUMPS or the Massachusetts (General Hospital) Utility Multi-Programming System. This is the programming language used to write all VistA applications.

Menu A set of options or functions available to users for editing, formatting, generating reports, etc.

Modality Another name for a medical instrument.

Module A component of a software application that covers a single topic or a small section of a broad topic.

Namespace A naming convention followed in the VA to identify various applications and to avoid duplication. It is used as a prefix for all routines and globals used by the application.

Network Server Share A machine that is located on the network where shared files are stored.

Notebook This term refers to a GUI screen containing several tabs or pages.

Option A functionality that is invoked by the user. The information defined in the option is used to drive the menu system. Options are created, associated with others on menus, or given entry/exit actions.

Package Otherwise known as an application.

Page This term refers to a tab on a GUI screen or notebook.

Password A protected word or string of characters that identifies or authenticates a user, a specific resource, or an access type (synonymous with Verify Code).

Persistent Connection A connection that is established by the medical device and is kept connected to VistA even after the device has transmitted its HL7 message.

Non-persistent Connection A connection that is established by the medical device to VistA and is disconnected once the HL7 message has been sent.

Pointer A special data type of VA FileMan that takes its value from another file. This is a method of joining files together and avoiding duplication of information.

Procedure Request Any procedure (EKG, Stress Test, etc.) which may be ordered from another service/specialty without first requiring formal consultation.

Queuing The scheduling of a process/task to occur at a later time. Queuing is normally done if a task uses up a lot of computer resources.

Result A consequence of an order. Refers to evaluation or status results. When you use the Complete Request (CT) action on a consult or request, you are transferred to TIU to enter the results.

Security Key A function which unlocks specific options and makes them accessible to an authorized user.

Sensitive Information Any information which requires a degree of protection and which should be made available only to authorized users.

Site Configurable A term used to refer to features in the system that can be modified to meet the needs of each site.

Software A generic term referring to a related set of computer programs.

Status Symbols Codes used in order entry and Consults displays to designate the status of the order.

Study See CP Study.

Task Manager or TaskMan A part of Kernel which allows programs or functions to begin at specified times or when devices become available. See Queuing.

Title Titles are definitions for documents. They store the behavior of the documents which use them.

TIU Text Integration Utilities.

User A person who enters and/or retrieves data in a system.

User Class User Classes are the basic components of the User Class hierarchy of ASU (Authorization/Subscription Utility) which allows sites to designate who is authorized to do what to documents or other clinical entities.

User Role User Role identifies the role of the user with respect to the document in question, such as Author/Dictator, Expected Signer, Expected Cosigner, Attending Physician, etc..

Verify Code A unique security code which serves as a second level of security access. Use of this code is site specific; sometimes used interchangeably with a password.

VistA Veterans Health Information Systems and Technology Architecture.

16. Appendix A – CP Application Startup Options and Command Line Switches

Topics discussed in this chapter are:

- [Introduction](#)
- [What is a Command Line Switch?](#)
- [Shared Broker Environment](#)
- [CPRS Tools Menu](#)
- [All Command Line Switches](#)

Introduction

Clinical Procedures was designed to operate as a standalone client or, when desired, launched from the tools menu of CPRS. CP uses the new Shared Broker environment and is also backwards compatible with previous releases of the RPC Broker. This functionality is achieved through the use of command line switches, which are applied to the Desktop Icons, Start Menu items, or the command assigned to an item on the CPRS tools menu.

What is a Command Line Switch?

A command line switch is a setting that is included in the call to the executable that controls the behavior of the executable. A common switch setting deployed in the VistA environment specifies the proper server on the proper listener port for the RPC Broker to connect to without user intervention. This is commonly seen when you create a desktop icon for CPRS with the `/s=BrokerServer /p=9200` switch. The connection to the VistA server is defined as BrokerServer on listener port 9200. (See the RPC Broker manuals for a complete description of defining a valid connection to pass to applications.)

Shared Broker Environment

CP was developed when the Shared Broker was being implemented. The Shared Broker provides a more responsive workstation environment by eliminating multiple sign-on requirements and preserving VistA server resources by combining several client applications into a single process/connection. CP provides this new functionality.

To assist sites in the migration to Shared Broker, CP is backwards compatible with the previous RPC Broker environment with a simple command line switch in the desktop icon, start menu item, and CPRS Tools Menu items. During the client GUI installation, desktop icons and start menu items are installed using the command line switch, `/NonSharedBroker`. By appending this

command line switch, a call to launch a CP application causes the application to run with the old style broker and does not require that the workstation be upgraded with the latest broker client software.

Example:

```
\\MyAppServer\CP\CPuser.exe /server=BrokerServer /Port=9200 /NonSharedBroker
```

In this example, CPUser is executed from the server MyAppServer in share name CP and tries to connect to the VistA server defined as BrokerServer on listener port 9200. In addition, this command causes CPUser to connect to the previous version of the broker instead of the Shared Broker.

CPRS Tools Menu

If you want to use CP User from the CPRS tools menu, you need to launch CP User in a mode that causes it to listen to CPRS for patient changes and to exit when CPRS is closed. When appending the command line switch /cprs to the command in the CPRS Tools Menu command line, CP runs in a slave mode and does not allow patients to be selected within the CP environment. CPRS provides placeholders for the site to utilize when creating command lines for the tools menu. These are:

- %srv Holds the name of the server that CPRS is currently connected to.
- %port Holds the listener port that CPRS is currently communicating through.
- %dfn Holds the DFN of the currently opened patient record in CPRS.

Example command line for CPRS tools menu:

```
CPUser=\\MyAppServer\CP\CPuser.exe /cprs /server=%s /port=%p /dfn=%d
```

In this example, the CPUser.exe on server MyAppServer in the Share CP runs as a slave under the CPRS application while connecting to the server that CPRS defined in %s on the listener port defined in %p. In addition, CP User opens the patient defined in %d upon starting.

For instructions on setting up the CPRS Tools menu, refer to, [Adding Clinical Procedures to the CPRS Tools Menu](#), p. 10-6

All Command Line Switches

Clinical Procedures V. 1.0 command line parameters available from the command prompt or within Windows shortcut definitions and the CPRS Tools menu commands are defined by application.

CP User.exe [/server=*servername*] [/port=*listenerport*] [/cprs] [/dfn=*patientdfn*]
 [/helpdir=*helpdirectory*] [/debug={on|off}] [/brokertimeout=*seconds*]
 [/bypasscrc] [/NonSharedBroker]

CP Manager.exe [/server=*servername*] [/port=*listenerport*] [/helpdir=*helpdirectory*]
 [/debug={on|off}] [/brokertimeout=*seconds*] [/bypasscrc]
 [/NonSharedBroker]

CP Gateway.exe [/server=*servername*] [/port=*listenerport*] [/helpdir=*helpdirectory*]
 [/debug={on|off}] [/brokertimeout=*seconds*] [/bypasscrc]
 [/NonSharedBroker]

Switches:

Name	Description	Default
/server	Specifies a VistA server to which you are connected.	BROKERSERVER
/port	Specifies an alternate listener port on the selected server.	9200
/cprs	Specifies that the application is to run in slave mode under CPRS. This switch must be utilized when adding the CP User application to the CPRS tools menu.	
/dfn	Specifies the patient dfn (record identifier) to open upon application startup. This switch must be utilized when adding the CP User application to the CPRS tools menu.	
/helpdir	Location of the Clinical Procedures windows help files.	../appdir/help of the application.
/debug	Sets the debug mode for both the RPC Broker and the Clinical Procedures application.	Off
/brokertimeout	Overrides the timeout for the RPC Broker when executing a Remote Procedure.	30
/bypasscrc	Overrides the system parameters setting to check an applications crc32 value upon application startup. This switch should only be used during testing to avoid the messages if the site is implementing CRC verification.	

/NonSharedBroker	This switch instructs the application to not utilize the shared broker functionality. Used when the Shared Broker has not been implemented on the target workstation.	
------------------	--	--

servername IP Address or Name of VistA server as it appears in the client Hosts. file.
 Default Hosts. file locations:
 NT 4.0 = c:\winnt\system32\drivers\etc\hosts.
 Win95/98 = c:\windows\hosts.

listenerport TCP Port that the Broker is running on the VistA server.

helpdirectory Directory path to a location containing the Clinical Procedures V. 1.0 Help Files.

seconds Integer value specifying the number of seconds the RPC Broker waits for a server response to an RPC.

patientdfn Value of the patient dfn to access when starting the CP User application.

17. Appendix B – Exported Procedures List

These exported procedures are contained in the MDPOST routine. When the INIT^MDPOST routine is run, these entries are added to your CP Definition (#702.01) file:

ABD PARACENTESIS: FOLLOWUP
ABD PARACENTESIS: INITIAL
ABLATION OF AV NODE FUNCTION
AICD INTER/CONDITION
AIRWAY RESISTANCE
ANO BIOPSY
ANO CONTROL BLEEDING
ANO DIAGNOSTIC (BRUSHINGS)
ANO HOT BIOPSY (IES)
ANO SINGLE TUMOR (HOT/BICAP)
ANOSCOPY
ARRHYTHMIA INDUCTION BY PACING
ARTERIAL BLOOD GASES
ARTERIAL CANNULATION
ARTERIAL PUNCTURE
ARTHROC.ASPIR.INJ.INT.JT.BUR
ARTHROC.ASPIR.INJ.MAJ.JT.BUR
ARTHROCENT.ASPIR.INJ.SM.JT.BUR
ASPIRATION
BIOPSY
BIOPSY LUNG, PERCUTANEOUS NDL
BIOPSY, PLEURA
BONE MARROW
BONE MARROW INTERPRETATION
BRONC DIAGNOSTIC W/BAL
BRONC W/BRONC WASHING
BRONC W/TRANSBRONC LUNG BX
BRONCHIAL BRUSH
BRONCHOSCOPY W/BRONCH BIOPSY
BRONCHOSCOPY W/WANG NEEDLE
BRONCHOSCOPY, LASER
BRONCHOSCOPY, STENT PLACEMENT
BRONCHOSCOPY, THERAPEUTIC
BRONCOSCOPY/FB REMOVAL
C&P EXAM
CARDIAC CATHETERIZATION
CARDIAC REHAB W/O ECG MON
CARDIAC REHAB/W ECG MON
CARDIOPULMONARY REHABILITATION
CARDIOVERSION, ELECTIVE

CENTRAL VENOUS CANNULATION
CHEMOTHERAPY
COL ABL (OTHR THAN SNARE/BI)
COL BIOPSY
COL CONTROL HEM.
COL DIAGNOSTIC (BRUSHINGS)
COL HOT BIOPSY(IES)
COL REMOVAL FB
COL SNARE
COLONOSCOPY
COMPREHENSIVE EP EVALUATION
CPAP/BIPAP VENTILATION
DIALYSIS PROCEDURES, HEMO
DIALYSIS TRAINING/COMPLETE
DIFFUSION
DILUTION STUDIES FOR CO MEAS
ECG
ECG (EKG), RHYTHM STRIP
ECG 12 LEAD
ECG 24 HOUR HOLTER MONITOR
ECG MONITORING
ECG WITH INTERPRETATION
ECG, EVENT RECORDER
ECG, RHYTHM TRACING
ECG, SIGNAL AVERAGE
ECHO
ECHO TRANSESOPHOGEAL SINGLE PL
ECHO, 2D M-MODE
ECHO, DOPPLER COLOR FLOW
ECHO, DOPPLER, COMPLETE
ECHO, TRANSESOPHOGEAL
ECHO, TRANSESOPHOGEAL BIPLANE
ECHO, TRANSTHORACIC
EGD
EGD ABL (OTH THAN SNARE/BI)
EGD BAND LIGATION
EGD BIOPSY
EGD DIAGNOSTIC (BRUSHINGS)
EGD DILATION BALLOON
EGD DILATION WIRE
EGD FOREIGN BODY
EGD HOT BIOPSY(IES) / BICAP
EGD INJECTION / SCLEROSIS
EGD SNARE/SINGLE
EGD TUBE/STENT
EKG, ROUTINE (12 LEADS)

ENDO OF BOWEL POUCH W/ BIOPSY
 ENDOMYOCARDIAL BIOPSY
 ENDOSCOPIC ULTRASOUND
 ENDOSCOPIC ULTRASOUND, BIOPSY
 ENDOSCOPY OF BOWEL POUCH
 ENDOTRACHEAL INTUBATION
 ENTEROSCOPY
 EP EVAL OF CARDIO/DEFIB LEADS
 EP EVAL OF CARDIOVERTER/DEFIB
 EP EVAL W/ ARRHYTHMIA INDUCT
 EP EVAL W/ L ATRIAL RECORD
 EP EVAL W/ L VENTRIC RECORD
 EP FOLLOWUP STUDY W/PACING
 EP STUDY
 EPICARDIAL/ENDOCARDIAL MAPPING
 ERCP
 ERCP ABL (OTHR THAN SN/BI)
 ERCP BALLOON DILATION
 ERCP BIOPSY
 ERCP DEST STONES
 ERCP DIAGNOSTIC (BRUSHINGS)
 ERCP DRAIN, TUBE
 ERCP INSERTION OF TUBE/STENT
 ERCP PRESSURE OF ODDI
 ERCP REM STONES
 ERCP RMV FB OR CHG OF TUBE
 ERCP SPHINCTEROTOMY
 ES ABLATION (OTHER)
 ES BAND LIGATION
 ES BIOPSY
 ES CONTROL BLEEDING
 ES DIAGNOSTIC ENDO (BRUSHINGS)
 ES DILATION (BALLOON)
 ES DILATION (WIRE)
 ES HOT BIOPSY (IES)
 ES INJECTION / SCLEROSIS
 ES INSERTION TUBE/STENT
 ES REMOVAL FB
 ES SNARE
 ESOPHAGEAL DILATION
 ESOPHAGEAL MOTILITY STUDY
 ESOPHAGEAL RECORDING
 ESOPHAGUS
 ETT
 ETT W/ O2 CONSUMPTION
 ETT W/ THALLIUM SCAN

EXAM,SYNOVIAL FLUID CRYSTALS
EXERCISE CHALLENGE
FINE NEEDLE ASPIRATION
FLEX SIG
FLOW VOLUME LOOP
FLX ABLATION (OTHER)
FLX BIOPSY
FLX CONTROL HEM.
FLX DECOMPRESS VOLVULUS
FLX DIAGNOSTIC (BRUSHINGS)
FLX HOT BIOPSY(IES)
FLX REMOVAL FB
FLX SNARE
FRC
FT CHANGE OF G TUBE
FT EGD FOR PEG PLACEMENT
FT PERC PLACEMENT OF G TUBE
FT REPOS TUBE THRU DUODENUM
FT SM INT ENDO CONV G-J TUBE
FT SM INT ENDO J TUBE PLACE
HEART RATE VAR. ANALYSIS
HEMODIALYSIS, ONE EVAL
HEMODIALYSIS, REPEATED EVAL.
HOLTER
I & D /DEBRIDEMENT
ICD IMPLANTATION
ICD INTERROGATION
ILEOSCOPY THROUGH STOMA
ILEOSCOPY W/ BIOPSY
INFUSION 1-8 HRS.
INFUSION TO 1 HR.
INJ FOR ANGIOGRAPHY
INJ FOR AV BYPASS GRAFTS
INJ TENDON/LIGAMENT/CYST
INJECTION, CARDIAC CATH
INTRA-ATRIAL PACING
INTRA-ATRIAL RECORDING
INTRAVENTRICULAR PACING
INTRODUCTION OF NEEDLE/CATH
IV FLUID THERAPY
IV INFUSION
IV PUSH
IV THER. 1-8 HRS.
IV THER. UP TO 1 HR.
LASER SURGERY (NOT YAG)
LEFT HEART CATHETERIZATION

LEFT VENTRICULAR RECORDING
 LIVER BIOPSY
 LUNG COMPLIANCE
 MECHANICAL VENTILATION
 METHACHOLINE CHALLENGE
 MONITOR W/ REVIEW & REPORT
 OVER GUIDE WIRE
 PACEMAKE IMPLANTATION
 PACEMAKER
 PACEMAKER FOLLOW UP
 PACEMAKER, RHYTHM STRIP
 PARACENTESIS
 PERIPH BLOOD SMEAR INTERPRET
 PHLEBOTOMY
 PLACE CATHETER IN VEIN, HEMO
 PLEURODESIS
 PNEU BALLOON (30MM+) ACHALASIA
 PROC ABLATION (OTHER)
 PROC BIOPSY
 PROC CONTROL BLEEDING
 PROC DIAGNOSTIC (BRUSHINGS)
 PROC DILATION
 PROC HOT BIOPSY(IES)
 PROC REMOVAL FB
 PROC SNARE
 PROC TUMORS, MULT (HOT/SN/BI)
 PROCTOSCOPY
 PROGRAMMED STIMULATION/PACING
 PSEUDOFOLLICULAR SCAN
 PULMONARY ARTERY CATHETER
 PULMONARY FUNCTION INTERPRET
 PULMONARY PROCEDURES
 PULSE OXIMETRY MULTIPLE REHAB
 PULSE OXIMETRY SINGLE REHAB
 PULSE OXIMETRY, MULTIPLE
 RHEUMATOLOGY PROCEDURES
 RIGHT HEART CATHETERIZATION
 RIGHT VENTRICULAR RECORDING
 RT & LT HEART CATHETERS
 SB ENDO W/ABLATION
 SB ENDO W/BLEEDING CONTROL
 SB ENDO W/FB REMOVAL
 SB ENDO W/HOT BIOPSIES
 SB ENDO W/INCL ILEUM
 SB ENDO W/INCL ILEUM,BIOPSY
 SB ENDO W/INCL ILEUM,BLD CONT

SB ENDO W/TUMORS (SNARE)
SCREENING, MAMMOGRAM
SCREENS AND INJ, ANTI-COAG
SLOW VITAL CAPACITY
SMALL BOWEL ENDOSCOPY
SMALL BOWEL ENDOSCOPY,BIOPSY
SOUND/BOUGIE;SINGLE/MULT
SPIROMETRY
SPIROMETRY, PRE & POST
STO ABLATION
STO BIOPSY
STO CONTROL HEM.
STO DIAG/BRUSHING
STO FOREIGN BODY
STO HOT BIOPSY(IES)
STO SNARE
STOMA
STRESS TEST, ECHO IMAGING
STRESS TEST, EXER (NON-IMAGE)
STRESS TEST, NUCLEAR IMAGING
SUBCUT./IM
SYMPTOM LIMITED EXERCISE TEST
THORACENTESIS
THORACIC GAS VOLUME
THORACOSTOMY
THRESHOLD TEST (DUAL)
THRESHOLD TEST (SGL)
TILT TABLE TEST FOR SYNCOPE
TRANS. BLOOD
TRANS. INDWELL. VEN. ACC. CARE
TRANS. THERAPEUTIC APHERESIS
TRANSFUSION
VENIPUNCTURE (ROUTINE), HEMO

18. Appendix C - Instrument Processing Routines

The following is a listing of the processing routines associated with each instrument.

Instrument Name:	Processing Routine:
CLINIVISION	MDHL7R1
¹ BRAUN	MDHL7D
BRAUN (Bi-Directional)	MDHL7D
FRESENIUS	MDHL7D
FRESENIUS (Bi-Directional)	MDHL7D
GAMBRO_EXALIS	MDHL7D
GAMBRO_EXALIS (Bi-Directional)	MDHL7D
Muse	MDHL7M1
Muse EKG	MDHL7M1
Muse Exercise	MDHL7M1
Muse Holter	MDHL7M1
Muse Pacemaker EKG	MDHL7M1
OLYMPUS	MDHL7E
OLYMPUS Bronchoscopy	MDHL7E
OLYMPUS Colonoscopy	MDHL7E
OLYMPUS EGD	MDHL7E
OLYMPUS EGDPEG	MDHL7E
OLYMPUS ERCP	MDHL7E
OLYMPUS Endo Ultrasound	MDHL7E
OLYMPUS Enteroscopy	MDHL7E
OLYMPUS Liver Biopsy	MDHL7E
OLYMPUS Paracentesis	MDHL7E
OLYMPUS Sigmoidoscopy	MDHL7E
SMC	MDHL7P1

¹ Patch MD*1.0*6 May 2008 Added Hemodialysis instrument entries: BRAUN, FRESENIUS, and GAMBRO.
April 2004

19. ¹Appendix D – Exported Values For Hemodialysis Options

Custom Data List

Anticoagulants

<u>Item</u>	<u>Value</u>
1	Heparin
2	Citrate
3	Saline Flush
4	None
5	Warfarin

Code Statuses

<u>Item</u>	<u>Value</u>
01	DNR
02	AD Signed
03	Full Resuscitation
04	DNI

Dialyzer List

<u>Item</u>	<u>Value</u>
01	400-HG
02	500-HG
03	50H
04	50M
05	50U
06	600-HE
07	65H
08	65U
09	700-HE
10	75U
11	90U
12	Alwall GFE-09
13	Alwall GFE-11
14	Alwall GFE-12
15	Alwall GFE-15
16	Alwall GFE-18

¹ Patch MD*1.0*6 May 2008 Listed the exported values for Hemodialysis Options.
April 2004

Appendix D – Exported Values for Hemodialysis Options

17	Alwall GFS Plus 11
18	Alwall GFS Plus 12
19	Alwall GFS Plus 16
20	Alwall GFS Plus 20
21	Alwall GFS-12
22	Alwall GFS-16
23	B3-0.8-A
24	B3-1.0-A
25	B3-1.0-A
26	B3-1.6-A
27	B3-2.0-A
28	BK-1.6-U
29	BK-2.1-U
30	C-061
31	C-081
32	C-101
33	C-121
34	C-151
35	CA-110
36	CA-150
37	CA-170
38	CA-210
39	CA-50
40	CA-70
41	CA-90
42	CAHP/DICEA 110G
43	CAHP/DICEA 150G
44	CAHP/DICEA 210G
45	CAHP/DICEA 90G
46	CF-12 (ST-12)
47	CF-15 (ST-15)
48	CF-23 (ST-23)
49	CF-25 (ST-25)
50	CT-110G
51	CT-190G
52	F5
53	F-50
54	F6
55	F-60
56	F-60-M
57	F8
58	F-80
59	F-80-M
60	Filtral 20
61	Lundia Alpha 400
62	Lundia Alpha 500

63	Lundia Alpha 600
64	Lundia Alpha 700
65	Lundia Aria 550
66	Lundia Aria 700
67	Lundia Pro 500
68	Lundia Pro 600
69	Lundia Pro 800
70	M-081
71	M-101
72	M-121
73	M-151
74	Optiflux 200r
75	Polyflux 11S
76	Polyflux 14S
77	Polyflux 17S
78	Polyflux 21S
79	Polyflux 210H
80	PSN120
81	PSN-150
82	PSN-170
83	PSN-210
84	T-150
85	T-175
86	T-220
87	Tricea 110G
88	Tricea 150G
89	Tricea 190G
90	Tricea 210G

Education Codes

<u>Item</u>	<u>Value</u>
01	One

ESRD Diagnosis

<u>Item</u>	<u>Value</u>
01	585
02	403.01
03	403.11
04	403.91
05	25000 A Type II, adult-onset type or unspecified type diabetes
06	25001 A Type I, juvenile type, ketosis prone diabetes
07	5829 A Glomerulonephritis (GN)(histologically not examined)

08	5821 A Focal glomerulosclerosis, focal sclerosing GN
09	5831 A Membranous nephropathy
10	5832 A Membranoproliferative GN type 1. diffuse MPGN
11	5832 C Dense deposit disease, MPGN type 2
12	58381 B IgA nephropathy, Berger's Disease (proven by immunofluorescence)
13	58381 C IgM nephropathy (proven by immunofluorescence)
14	5804 B Rapidly progressive GN
15	5834 C Goodpasture's Syndrome
16	5800 C Post infectious GN, SBE
17	5820 A Other proliferative GN
18	7100 E Lupus erythematosus, (SLE nephritis)
19	2870 A Henoch-Schonlein syndrome
20	7101 B Scleroderma
21	2831 A Hemolytic uremic syndrome
22	4460 C Polarteritis
23	4464 B Wegener's granulomatosis
24	5839 C Nephropathy due to heroin abuse and related drugs
25	4462 A Vasculitis and its derivatives
26	5839 B Secondary GN, other
27	9659 A Analgesic abuse
28	5830 B Radiation nephritis
29	9849 A Lead nephropathy
30	5909 A Nephropathy caused by other agents
31	27410 A Gouty nephropathy
32	5920 C Nephrolithiasis
33	5996 A Acquired obstructive uropathy
34	5900 A Chronic pyelonephritis, reflux nephropathy
35	58389 B Chronic interstitial nephritis
36	58089 A Acute interstitial nephritis
37	5929 B Urolithiasis
38	2754 A Nephrocalcinosis
39	4039 D Renal disease due to hypertension (no primary renal disease)
40	4401 A Renal artery stenosis
41	59381 B Renal artery occlusion
42	59381 E Cholesterol emboli, renal emboli
43	75313 A Polycystic kidneys, adult type (dominant)
44	75314 A Polycystic, infantile (recessive) 7
45	75316 A Medullary cystic disease, including nephronophthisis
46	7595 A Tubular sclerosis
47	7598 A Hereditary nephritis, Alport's syndrome
48	2700 A Cystinosis
49	2718 B Primary oxalosis
50	2727 A Fabry's disease
51	7533 A Congenital nephrotic syndrome
52	5839 D Drash syndrome, mesangial sclerosis
53	7532 A Congenital obstructive uropathy

54	7530 B Renal hypoplasia, dysplasia, oligonephronia
55	7567 A Prune belly syndrome
56	7598 B Hereditary/familial nephropathy
57	1890 B Renal tumor (malignant)
58	1899 A Urinary tract tumor (malignant)
59	2230 A Renal tumor (benign)
60	2239 A Urinary tract tumor (benign)
61	2395 A Renal tumor (unspecified)
62	2395 B Urinary tract tumor (unspecified)
63	20280 A Lymphoma of kidneys
64	2030 A multiple myeloma
65	2030 B Light chain nephropathy
66	2773 A Amyloidosis
67	99680 A Complication post bone marrow or other transplant
68	28260 A Sickle cell disease/anemia
69	28269 A Sickle cell trait and other sickle cell (HbS/Hb other)
70	64620 A Postpartum renal failure
71	0429 A AIDS nephropathy
72	8660 A Traumatic or surgical loss of kidney(s)
73	5724 A Hepatorenal syndrome
74	5836 A Tubular necrosis (no recovery)
75	59389 A Other renal disorders
76	7999 A Etiology uncertain

Medication Routes

<u>Item</u>	<u>Value</u>
01	ID
02	IN
03	IV
04	IVP
05	PO
06	SL
07	SQ

Medication Units

<u>Item</u>	<u>Value</u>
01	ml
02	mg
03	units
04	mcg
05	oz
06	gal

07	gr
08	Gm
09	Kg
10	lb
11	pt
12	in
13	qt
14	liter
15	Tsp
16	Tbsp
17	mEq

Modalities

<u>Item</u>	<u>Value</u>
01	HD
02	Inpatient HD
03	Short Intermittent HD
04	Nocturnal HD
05	ICU HD
06	Outpatient HD
07	Home HD

TIU Note Titles

<u>Item</u>	<u>Value</u>
01	Site Specific TIU Note Title

Transportation Methods

<u>Item</u>	<u>Value</u>
1	ambulatory
2	bed
3	motorized w/c
4	wheel chair
5	stretcher

Preferences

System Preferences

The system preferences are exported with the following default values:

Allow USER control Study Status = FALSE
 Allow USER delete blank F/S records = FALSE
 Allow USER Reset Study Status = FALSE
 Application Web Page URL =
<http://vista.med.va.gov/clinicalspecialties/clinproc/showProject.asp?pid=1>
 Blanks Placeholder = <blank>
 Broker Timeout (sec) = 30
 Color Disabled = -16777201
 Color Editable = -16777211
 Color of Background = -16777201
 Color of Toolbars = 12632256
 Color Read Only = 15793151
 Color Read/Write = 12632256
 Color Required = -16777192
 Color Review = 12632256
 Color Unknown = 255
 Falls Assessment as Separate TIU Note = TRUE
 Flowsheet Refresh Rate (min) = 15
 Ignore Unfinished Status = TRUE
 Overwrite Manual Input = TRUE
 Pain assessment based on how patient tolerates pain = FALSE
 Pain Level = 1
 Report keyword = TREATMENT REPORT
 Reverse Flowsheet Order = TRUE
 Save Flowsheet Vitals = FALSE
 Save Vitals = FALSE
 Set the new study Cover to Read Only = FALSE
 Show Additional Reports = TRUE
 Show Disabled Studies to Users = FALSE
 Show Flowsheet Event Copies = TRUE
 Show Infectious Diseases information as Tree = TRUE
 Show report signature field = TRUE
 Show TIU Note Templates = FALSE
 Show Treatment Status Report = TRUE
 Study List Refresh Rate (sec) = 60
 Study Load Limit = 5
 Summary Report Name = Summary Report

Report List

Summary Report Template

TREATMENT REPORT for HEMODIALYSIS STUDY #<StudyID>

Patient Name: <PatientName>
 SSN:..... <PatientSSN>
 DOB:..... <PatientDOB>
 Age:..... <PatientAge>
 Sex:..... <PatientSex>

Treatment Date:..... <cdsInfo.StudyDate>
 ESRD Diagnosis:..... <Diagnosis>
 Diagnosis Date:..... <DDate>
 Initial Therapy Date:..<InitialTDate>
 Modality:..... <Modality>
 Code Status:..... <CodeStatus>
 Attending Nephrologist:<Attending Nephrologi>
 Schedule:..... <SCHEDULE>
 Transplant Candidate. <cdsSummary.TransCand>
 Work in Progress.... <cdsSummary.TransWIP>
 Referred to TC..... <cdsSummary.TransReff>

Station#: <Station>
 Machine#: <Machine>

TREATMENT SUMMARY

Treatment Start Time:..<Treatment Start Time>
 Treatment End Time:....<Treatment End Time>
 Treatment Duration:....<Treatment Duration> (instrument data)
 Duration Adjusted:....<Treatment Duration M> (manual input)

Total UF:.....<Summary Total UF>	Total LP:..... <Summary
Total LP	
Mean UFR:.....<Summary Mean UFR>	Mean TMP:..... <Summary
Mean TMP	
Average BFR:.....<Summary Avg BFR>	Average DFR:..... <Summary
Avg DFR	
Mean Dialysis Temp:....<Summary Mean Temp>	Mean Conductivity:..<Summary
Mean Cond	
Total KT:.....<Summary Total KT>	Total KT/V:..... <Summary
Total KT/V	
URR:.....<Summary URR>	

Intra Access BF:..... <IABF>
 VP at Zero BF:..... <VP0>
 AVP at Zero BF:..... <AVP0BF>
 VP at 200 ml/min:..... <VP200>

Overall Comments:
 <Summary Comments>

RX

ORDER
 Dialyzer:..... <cdsSummary.Dialyzer>

Reuse: Max#:.... <cdsSummary.ReuseNum>
 Tx Length:..... <TxLength>
 Ultrafiltration:..<cdsSummary.RxUltra> kg/hr
 EDW:.....<cdsSummary.RxEDW> Kg
 BFR:.....<cdsSummary.BFR> cc/min
 Dialysate Flow:..<cdsSummary.DFlow> cc/min
 Temperature:.....<cdsSummary.Temp> C

DIALYSATE FORMULA

K:.....<cdsSummary.DFK> meq/Liter
 HC03:.....<cdsSummary.DFHCO3> meq/Liter
 NA:.....<cdsSummary.DFNA> meq/Liter
 CA:.....<cdsSummary.DFCA> meq/Liter

ANTICOAGULANTS

Type:..... <cdsSummary.ACType>
 Bolus:..... <cdsSummary.ACLoad>
 Maintenance:.... <cdsSummary.ACDoses>
 Duration:..... <cdsSummary.ACEndTime>
 Other:..... <cdsSummary.ACOther>

MODELING

NA:..... <cdsSummary.MODNA>
 UF:..... <cdsSummary.MODUF>

OTHER ORDERS

<cdsSummary.RxOther>

Rx and Lab Notes:

<cdsSummary.LabNotes>

PRE-TREATMENT

WEIGHT

Pre-Weight:.....<Summary Pre Weight> Kg
 Dry Weight:.....<cdsSummary.RxEDW> Kg
 Goal Weight:.....<Summary Goal Weight> Kg

TEMPERATURE

Pre-Temp:.....<Summary Pre Temp> F

PRE-BLOOD PRESSURE AND PULSE SEATED

BP:.....<Sum Pre BP Sys Sit> / <Sum Pre BP Dia Sit> mm Hg
 Pulse:.....<Sum Pre Pulse Sit> bpm

PRE-BLOOD PRESSURE AND PULSE STANDING

BP:.....<Sum Pre BP Sys Stand> / <Sum Pre BP Dia Stand> mm Hg
 Pulse:.....<Sum Pre Pulse Stand> bpm

<Pre Pain Report>

MENTAL STATUS

Alert:.....<Sum Pre Alert>
 Confused:.....<Sum Pre Confused>
 Sedate:.....<Sum Pre Sedate>
 Unresponsive:....<Sum Pre Unresponsive>
 Lethargic:.....<Sum Pre Lethargic>
 Restless:.....<Sum Pre Restless>
 Oriented:.....<Sum Pre Oriented>
 (<Sum Pre Oriented Tex>)

OTHER

Edema:.....<Sum Pre Edema>
 Respirations:....<Sum Pre Resp>
 Shortness of Breath: <Sum Pre SOB>

Appendix D – Exported Values for Hemodialysis Options

PATIENT EDUCATION

Has the patient been educated?...<Educated>
Education Key:..<EduKey>
Education Init.<EduInit>

PATIENT TRANSPORTATION

Transported by:...<PreTransportation>

SAFETY CHECKS

Have the safety checks been performed? <SafetyChecks>

PRE-TREATMENT NOTES:

<cdsSummary.PreNotes>

ACCESS USED

<ACCESS USED>

FLWSHEET

<FLWSHEET>

Flowsheet Notes:

<Flowsheet Notes>

MEDICINE ADMINISTRATION

<MEDICINE TABLE>

POST-TREATMENT

WEIGHT

Post-Weight:.....<Summary Post Weight> Kg
Tx Goal Weight:..<cdsSummary.RxEDW> Kg

TEMPERATURE

Post-Temp:.....<Summary Post Temp> F

POST-BLOOD PRESSURE AND PULSE SEATED

BP:.....<Sum Post BP Sys Sit> / <Sum Post BP Dia Sit> mm Hg
Pulse:.....<Sum Post Pulse Sit> bpm

POST-BLOOD PRESSURE AND PULSE STANDING

BP:.....<Sum Post BP Sys Stan> / <Sum Post BP Dia Stan> mm Hg
Pulse:.....<Sum Post Pulse Stand> bpm

<Post Pain Report>

MENTAL STATUS

Alert:..... <cdsSummary.PostAlert>
Confused:..... <cdsSummary.PostConfu>
Sedate:..... <cdsSummary.PostSedat>
Unresponsive:... <cdsSummary.PostUnres>
Lethargic:..... <cdsSummary.PostLetha>
Restless:..... <cdsSummary.PostRestl>
Oriented:..... <PostOriented>
(type):..... <PostOrientedText>

OTHER

Edema:..... <cdsSummary.PostEdema>
Respirations:... <cdsSummary.PostResp>
Shortness of Breath: <cdsSummary.PostSOB>

OBSERVATIONS

Was the treatment weight achieved? <cdsSummary.POWeight>

Was any medication administered? <cdsSummary.POMedicat>

How did the patient tolerate treatment?

Vomiting:..... <cdsSummary.TlrVom>

Hypotension:... <cdsSummary.TlrHyp>

Syncope:..... <cdsSummary.TlrSyn>

Cramping:..... <cdsSummary.TlrCram>

Stable:.....<Sum Post Stable>

Other:.....<cdsSummary.TlrOther> (<cdsSummary.TlrOtherD>)

TRANSPORTATION

Transported by:...<PostTransportation>

POST-TREATMENT NOTES

<cdsSummary.PostNotes>

FALLS RISK EVALUATION

<FallsAssessment>

Report was generated by <Version>
at <Now>

Appendix D – Exported Values for Hemodialysis Options

20. ¹Appendix E – High Volume Procedure Checklist

If you are setting up a CP procedure for the first time, follow the Implementation Guide to set up before using this checklist to indicate it as high volume. If the procedure is already in the CPManager, use this checklist to verify the steps are done. This is a checklist for the site to use to setup a high volume procedure:

- ┆ Verify the Application Proxy user is created after installation of patch MD*1.0*21.
- ┆ Add a TITLE in the SIGNATURE BLOCK TITLE field for the Application Proxy user. The site can designate its own SIGNATURE BLOCK TITLE.
- ┆ Review the section on Resulting High Volume Procedure in Chapter 4 of the User Manual.
- ┆ Decide which procedure to implement as a high volume procedure and which one of the four processes of resulting the high volume procedure is right for the procedure.
- ┆ Decide whether to use a Consults title or a CP note title.
- ┆ Create a new title or use an existing title.

(Please refer to Chapter 4 Setting Up TIU For Clinical Procedures and Step 2 Create CP Class Document Definition to create new note title. Remember you must map the new title to a VHA Enterprise Standard Title. Select a generic title to map to.)

- ┆ Edit the Technical Fields of the title and enter a Q (Quit) for Commit Action: Q and Post-signature Code: Q The user must have programmer access to the Technical Fields.

NOTE: This only applies, if you want to use the auto administrative closure functionality. If you want to use the significant findings functionality, you can skip this step.

(Please refer to Chapter 4 Setting Up TIU For Clinical Procedures. The steps to edit the fields are located after the section on Example of TIU Prompts.)

- ┆ Define the note title in Clinical procedures. If you choose to use a Consults title, use VA FileMan to edit the DEFAULT TIU NOTE field in the CP Definition file (#702.01). Otherwise, use CPManager application to enter that field with a CP note title.

NOTE: This title is solely for the use of Administrative Closure. Any subsequent note that will be entered for the procedure in CPRS will need a separate title.

FileMan example:

```
Select OPTION: 1 ENTER OR EDIT FILE ENTRIES
```

```
INPUT TO WHAT FILE: CP DEFINITION//
```

```

EDIT WHICH FIELD: ALL//

Select CP DEFINITION NAME: EKG
  1  EKG, ROUTINE (12 LEADS)
  2  EKG ECG
CHOOSE 1-2: 1 EKG, ROUTINE (12 LEADS)

NAME: EKG, ROUTINE (12 LEADS) Replace
TREATING SPECIALTY: CARDIOLOGY//
REQUIRE EXTERNAL DATA: Yes//
DEFAULT TIU NOTE: CP TEST TITLE//
    
```

- ┌ If you are using a Consults title, skip this step. If you are using a CP title, make sure the business rules for the title allow for editing, signing, and adding of Addendum. You need to add additional business rules to allow for these actions.

The following business rules are sample rules to allow a Medical Technologist to add an addendum, edit it, and sign it. Once the note is administratively closed, the technicians need the ability to add an addendum to enter the workload. Refer to Chapter 5 About ASU Business Rules and the Role of the Interpreter to add business rules. This chapter has steps on how to add a business rule in TIU.

| | |
|---|---|
| 1 | An UNSIGNED (TITLE) CP MUSE EKG may BE ADDENDED by a MEDICAL TECHNOLOGIST |
| 2 | An UNSIGNED (TITLE) CP MUSE EKG may BE SIGNED by a MEDICAL TECHNOLOGIST |
| 3 | An UNSIGNED (TITLE) CP MUSE EKG may BE EDITED by a MEDICAL TECHNOLOGIST |

- Assign the option MD HIGH VOLUME PROCEDURE SETUP to your Clinical Application Coordinator (CAC).
- ┌ Add the high volume procedure using the option MD HIGH VOLUME PROCEDURE SETUP.

(Refer to Chapter 6 - Setting Up Clinical Procedures and Step 5, Section on Exported Kernel XPAR Parameter for Patch MD*1.0*21. This section shows you how to setup the procedure as high volume procedure.)

- ┌ You can enable notification CONSULT/REQUEST RESOLUTION for users that need to be notified upon consult completion. This is done through CPRS CAC. Use **Notification Mgmt Menu** option and select the Enable/Disable Notifications option. Example screen capture is shown below:

```

Select Notification Mgmt Menu Option: 1 Enable/Disable Notifications

                                Set PROCESSING FLAG Parameters for Notifications

Processing Flag may be set for the following:

  1  User           USR   [choose from NEW PERSON]
  2  Team (OE/RR)  OTL   [choose from OE/RR LIST]
  3  Service       SRV   [choose from SERVICE/SECTION]
  4  Location      LOC   [choose from HOSPITAL LOCATION]
  5  Division      DIV   [HINES DEVELOPMENT]
  6  System        SYS   [DEV.DEV.FO-HINES.MED.VA.GOV]
  7  Package       PKG   [ORDER ENTRY/RESULTS REPORTING]
    
```

```

Enter selection: 1 User NEW PERSON
Select NEW PERSON NAME: TEST,
  1 TEST,A TA
  2 TEST,CARL TC PHYSICIAN
  3 TEST,CAROLE CJT ISC COMPUTER SPECIALIST
Press <RETURN> to see more, '^' to exit this list, OR
CHOOSE 1-3: 1 TEST,A TA

----- Setting Processing Flag for User: TEST,A -----
Select Notification: CONSULT/REQUEST RESOLUTION
Are you adding CONSULT/REQUEST RESOLUTION as a new Notification? Yes// YES

Notification: CONSULT/REQUEST RESOLUTION// CONSULT/REQUEST RESOLUTION CONSUL
T/REQUEST RESOLUTION
Value: ?

Code indicating processing flag for the entity and notification.

Select one of the following:

M Mandatory
E Enabled
D Disabled

Value: Enabled
Select Notification:
    
```

- Assign the option MD PROC W/INCOMPLETE WORKLOAD to your CAC or/and technicians (who will be doing the workload reporting). This tool can help the CAC and/or technicians identify which patient has incomplete workload.

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